

CHANGE ORDER FORM

CHANGE ORDER NO. 19

DATE: September 10, 1980

OWNER: Hamilton Township Municipal  
Authority

ARROWOOD, INCORPORATED  
CONSULTING ENGINEERS

PROJECT: Waste Water Collection System  
E.P.A. No. C-420916010

CONTRACT NO. Alternate No. 1 - Pipeline

CONTRACTOR: The Gerl Construction Company  
Post Office Box 21  
Glen Rock, Pennsylvania 17327

THE FOLLOWING CHANGE IN THE CONTRACT LIMITS HAS BEEN REQUESTED BY THE: Owner

DESCRIPTION: Provide full roadway paving overlays for various township roads consisting of 1-1/2" CP-2 material in addition to trench restoration as specified in the contract. The attached township road restoration schedule indicates the road name, contract no., sheet no., type and location of roads requiring paving restoration.

~~10~~  
C1



IN REPLY REFER TO

NAPOP-E

DEPARTMENT OF THE ARMY  
PHILADELPHIA DISTRICT, CORPS OF ENGINEERS  
CUSTOM HOUSE—2 D & CHESTNUT STREETS  
PHILADELPHIA, PENNSYLVANIA 19106

5 JUN 1981

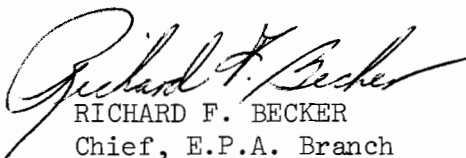
rec'd  
6/4/81

Mr. Joseph A. Galda, Chief  
Pennsylvania Branch  
Water Division, EPA Region III  
Curtis Building, 6th & Walnut Streets  
Philadelphia, Pennsylvania 19106

Dear Mr. Galda:

Attached herewith for your information is a copy of a Final Construction Inspection Report (Form 1850) for the Hamilton Township Municipal Authority; Grant No. C-420916-01. The original report will be submitted with the final payment package.

Sincerely,

  
RICHARD F. BECKER  
Chief, E.P.A. Branch

1 Incl  
As stated

Copy Furnished:  
Mr. Brij M. Garg, DER

  
CO

COE Final Construction Report

NAPOP-E

3 JUN 1981

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Water Division, EPA Region III  
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RICHARD F. BECKER  
Chief, E.P.A. Branch

Copy Furnished:  
Mr. Brij M. Garg, DER

# ENVIRONMENTAL PROTECTION AGENCY

## REGION III

### FINAL CONSTRUCTION INSPECTION REPORT

Grantee Hamilton Township Municipal Authority Grant No. C-420916-01

Inspection James A. Smith, Jr., P.E., Chambersburg Area  
Performed by: Office, Corps of Engineers Date 6 May 1981

Previous  
Inspection by: James A. Smith, Jr., P.E. Date 20 January 1981

The following persons took part in the inspection:

Name	Title/Employer	Telephone No.
Bill Arrowood, President, Arrowood, Inc.		(215) 263-8794
Dennis Black, Engineer, Arrowood, Inc.		(215) 263-8794
Al Dalberto, Project Engineer, PennDER-Harrisburg Regional Ofc		(717) 787-9665
George Geralis, Manager, Hamilton Twp. Municipal Authority		(717) 264-8959

Description of Project: Construction of approximately 127,550 l.f. of 8" thru 14"  
gravity sewers, 30,365 l.f. of 4" thru 8" force main, five pumping stations, and  
appurtenances.

Contract No.	Approved Completion Date	Actual Completion Date	Substantial Completion Date	Liquidated Damages Assessed	
				Yes	No
Alternate No. 1	14 Oct 80	13 Nov 80	8 Oct 80		X
5	13 Jul 80	*	21 Oct 80		X

Project Completion:

1. a. Is construction complete? Yes x No      Comments: Contract Alt. No. 1 -  
GERL - Complete - No Retainage, Contract No. 5 (P.S.) - Conewago - Punch List  
Items, Retainage \$12,000

b. Cut-off Date Not Established

2. Does the construction, in general appear to be satisfactory? Yes ☒ No ☐

Comments: All construction in accordance with approved plans, specifications, and contract modifications.

3. Are the items which were constructed now in full operation on a routine basis?

Yes ☒ No ☐ Comments: System is in full operation and functioning satisfactorily.

4. Are there any conflicts between the approved and constructed facilities?

Yes ☐ No ☒ Comments: \_\_\_\_\_

5. Have all punch list items been corrected? Yes ☐ No ☒ If No, are retainages being held pending correction? \$12,000 withheld on Contract 5 for completion of punch list items. See Attachment No. 1.

6. Is site restoration complete? Yes ☒ No ☐ Comments: \_\_\_\_\_

7. Have all complaints from property owners been satisfied? Yes ☒ No ☐

Comments: All complaints filed during the construction period have been satisfied.

Two have been received under the warranty period and action is being taken to resolve same.

Operation and Maintenance:

8. Does the wastewater treatment plant have an NPDES Permit? Yes ☐ No ☐

Permit No. N/A - SEWERS ONLY Comments: \_\_\_\_\_

9. a. Is operation and maintenance of the facilities satisfactory and in conformance with the NPDES requirements? (Attach EPA Form 7500-5, Plant Performance)

Yes ☐ No ☐ Comments: NOT APPLICABLE

b. Has the operator provided evidence that applicable discharge monitoring reports are being submitted. Comments: NOT APPLICABLE

Authority Office?

10. Is the Operation and Maintenance Manual at the ~~Plant~~ <sup>Plant?</sup> Yes X No    EPA Approved  
16 Apr 81.  
Is the Operation and Maintenance Manual being used by plant personnel? Yes X No   

11. a. Are laboratory records complete and adequate? Yes    No    See EPA Form 7500-5

b. Appearance of plant effluent: NOT APPLICABLE

12. Operator's opinion about the constructed facilities? Operator satisfied with  
constructed facilities.

13. Operation and Maintenance personnel and qualifications: O&M Manual - Manager,  
clerk-typist, two skilled field mechanics. Actual Staff - Manager, clerk-typist,  
superintendent, trainee mechanic.

Comments in General:

14. Are there odors coming from the ~~plant~~ <sup>Pump Stations?</sup> Yes    No X Comments   

15. Is there a plant by-pass? Yes    No    Approved by:   

Describe: NOT APPLICABLE

Construction Records:

16. a. Are construction records adequate? Yes X No    Comments:   

b. Have all change orders been completed and submitted to the State Agency?

Yes    No X Comments: All change orders have been submitted except for final as-  
built Change Orders No. 23 and 24.

16. c. Daily Logs? Yes X No \_\_\_ Comments: \_\_\_\_\_

Material Tests? Yes X No \_\_\_ Comments: \_\_\_\_\_

d. Equipment Guarantees? Yes X No \_\_\_ Comments: \_\_\_\_\_

As-Built Plans? Yes X No \_\_\_ Comments: \_\_\_\_\_

However, changes in electrical wiring and additional copies to be sent to Hamilton Twp Municipal Authority

17. Construction records are to be kept at Arrowood, Inc.'s Main Office.

18. List special major tests noted in the specifications and indicate whether  
adequately recorded. Satisfactorily  
Recorded

Trench Backfill Compaction Tests (90% Minimum) X

Structural Concrete Compaction Strength Tests (3,000 psi minimum) X

Gravity Sewers - Low Pressure Air Test X

Force Mains - Hydrostatic Leakage Test (150 psi minimum) X

Manholes - Infiltration/Exfiltration Test X

19. Are test results for material and equipment available upon request?

Yes X No \_\_\_ Comments: \_\_\_\_\_

20. Were leakage tests performed on <sup>pump station wet wells?</sup> ~~wastewater treatment tank units?~~ Yes X No \_\_\_

Comments: Tested during preliminary start-up.

Safety Features:

21. Are safety features adequate (first aid equipment, handrails, ladders, chlorination ventilation, gas masks, housekeeping, etc.)? Yes, all received and in use, except for disconnects on air packs, which render them inoperative. Conewago to supply these under punch list.

22. Are backflow devices provided at all connections to city water supply?

Yes \_\_\_ No X Comments: No public water supplies used. Pump stations supplied by wells.

23. Have all process piping and potable water piping been color coded and identified as required by contract specifications? Yes X No     Comments: Piping properly color coded at pump stations.

24. Are nonpotable water spigots labeled "not for drinking"? Yes     No X

Comments: No permanent outlets at pump stations, wells are capped and portable pump used when water is needed.

General:

25. Is there an alternate power source? Yes X No     Comments: Emergency generator at each pump station.

Is it functioning adequately? Yes X No     Comments: Units at each station were tested.

Can a power failure be simulated? Yes X No     Comments: All units functioned normally.

26. Is miscellaneous equipment on hand as required to be furnished under the contract(s) such as laboratory equipment, chemicals, tools, and spare parts?

Yes X No     Comments: All furnished as specified.

27. Is all sewer system metering equipment operational? Yes X No     Comments:    

28. The following items should be completed before construction can be considered complete and acceptable for final payment:

a. Submission of final as-built change orders to DER.

b. Completion of punch list items and final payment to contractor on Contract 5 - Pumping Stations. (Attachment No. 1)

c. Submission of revised as-built drawings to Authority.



Narrative: (Provide explanation for deficiencies or inadequacies with a recommendation for EPA action)

1. The inspection was conducted at the site and Authority Offices with representatives of the Grantee, DER, and the Consultant in attendance.

Arrowood, Inc. was responsible for project design and construction management.

2. Construction is complete, except for remaining punch list items on Contract 5, and the system has been in operation since October 1980. During heavy rains in April 1981 the Consultant reinspected all manholes and identified sources of suspected I/I. (Attachment No. 2). The Consultant reported that satisfactory repairs were effected and the listed leaks were eliminated.

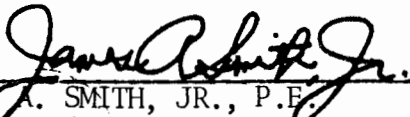
3. Warranty items being corrected on Contract 1 at this time are:

- a. Insertion of clay dikes along interceptor line near Pump Station No. 5 to prevent loss of stream water along trench.

- b. Resolution of damage claim at automobile lot at US 30 and Crottletown Road.

4. All Special Grant Conditions, including approval of ICR, UCS, SUO, and O&M, have been satisfied. Safety features of the system are adequate.

5. The project cut-off date will be established upon completion of deficiencies listed under Item No. 28 and submission of the final grant payment request package.

  
\_\_\_\_\_  
JAMES A. SMITH, JR., P.E.  
Inspector's Signature  
Chambersburg Area Office  
Philadelphia Project Office  
Corps of Engineers

12 May 1981

\_\_\_\_\_  
Date

# ARROWOOD, INCORPORATED

ENGINEERING — SURVEYING

P. O. BOX 433

CHAMBERSBURG, PENNSYLVANIA 17201

PHONE 263-8794

Sewerage, Drainage, Sewage  
& Industrial Wastes Treatment  
Water Supply & Water Treatment  
Refuse Disposal  
Reports & Appraisal

Planning & Zoning  
Roads & Streets  
Municipal Engineering  
Surveying & Estimating

May 7, 1981

Mr. Jack Richards  
Conewago Contractors, Incorporated  
Post Office Box 143  
Hanover, Pennsylvania 17331

Re: Hamilton Township Municipal Authority  
C-420916-01  
Contract No. 5

Dear Mr. Richards:

Enclosed please find a copy of the list of "punch list" items previously forwarded to you and dated February 11, 1981 for the referenced project. Recently a crew from your company successfully corrected a majority of the listed items as noted by check (✓) marks; your prompt action in supplying the remaining items (# 2, 3, & 6 of Section II) would be appreciated. My understanding is that you need a copy of the wiring diagrams provided as shop drawings to satisfy Item # 3 of Section II; this will be forwarded in the near future along with an explanation of the needed information.

In addition to these items, additional maintenance corrections are required as listed below:

## Pumping Station # 1

1. replacement of three (3) trees
2. reseeding
3. the cable attached to the debris basket needs to be lengthened to accommodate the additional two (2) feet of wet well height
4. the method of attachment for the free end of the debris basket cable needs to be improved

## Pumping Station # 2

1. See # 2 - P.S. # 1
2. See # 4 - P.S. # 1
3. The water proof switch inside the wet well for the exhaust fan needs replaced

## Pumping Station # 3

1. replacement of eight (8) shrubs
2. replacement of two (2) trees

Mr. Jack Richards

Page 2 of 2

3. See # 2 - P.S. # 1
4. See # 4 - P.S. # 1

Pumping Station # 4

1. replacement of five (5) shrubs
2. replacement of three (3) trees
3. See # 4 - P.S. # 1

Pumping Station # 5

1. replacement of one (1) tree
2. See # 4 - P.S. # 1
3. See # 3 - P.S. # 2

Contact me if you have any questions and/or comments.

Very Truly Yours  
ARROWOOD, INCORPORATED

*Dennis E. Black*  
Dennis E. Black, P.E.  
DEB/pb

cc: Hamilton Township Municipal Authority  
FmHA  
Mr. James A. Smith, Jr. - Corps of Engineers

February 11, 1981

Listing of items of work and/or material, spare parts, special tools, etc. remaining to be either completed, repaired or supplied for completion of Contract No. 5.

SECTION I - Work Items

- ✓ 1. Center hold down for gate at P.S. # 1 was installed. However, the concrete was left to high for snow plows to clear. - (needs lowered)
- ✓ 2. General clean up of building at P.S. # 1 - (is not acceptable as is)
- ✓ 3. Wire brush, prime and paint entrance tube to D.W. at P.S. @ 1 - (rust is showing)
- ✓ 4. Access road # 2 - (will not be done until spring)
- ✓ 5. Remove logs and debris partially buried in topsoil at P.S. @ 1 - reseed disturbed area. - (will not be done until spring)
- ✓ 6. Center hold down for gate at access road # 4 was installed. However, the concrete was left to high for snow plows to clear, also is all cracked due to freezing - (needs replaced and lowered)
- ✓ 7. Gates need adjusted at P.S. # 2 and # 4 - they are dragging due to sag.
- ✓ 8. Surge relief valve is leaking back through at P.S. # 1.
- ✓ 9. Water leak in generator at P.S. # 5 - along side of engine block.
- ✓ 10. Surface water drainage problem at P.S. # 5 - (low area needs filled up so water will drain off).

SECTION II - Material Spare Parts, and Special Tools

- ✓ 1. Valve keys (or wrenches) for force main by-pass valves (PS-M & E-9)
- 2. Quick disconnect ends (female) for Scott Air Pack (2 pieces)
- 3. As-built wiring diagrams for P.S. # 1, # 2, # 3, # 4, # 5 electric panels.
- ✓ 4. Aluminum plate with lettering at all pumping station (pumping station identification sign) NOTE: Three (3) signs have been delivered, none installed.
- ✓ 5. New top for Pump # 1 motor at P.S. # 1 (metal is split - delivered condition)
- 6. Wire covers for lights on rear of buildings at P.S. # 1, # 2, & # 4.

NOTE: All items in Section II are on order according to Mr. Jack Richards

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P. O. BOX 433

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Sewerage, Drainage, Sewage  
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Water Supply & Water Treatment  
Refuse Disposal  
Reports & Appraisal

Planning & Zoning  
Roads & Streets  
Municipal Engineering  
Surveying & Estimating

April 16, 1981

Mr. Rodney Krebs  
The Gerl Construction Company  
Route # 2  
Post Office Box 21  
Glen Rock, Pennsylvania 17327

Re: Hamilton Township Municipal  
Authority Project  
Faulty Manholes

Dear Rodney:

In our correspondence dated March 23, 1981 we sent you a listing of manholes requiring repair work. On April 14, 1981 we called you and reported the identification of three manholes with severe leakage problems (M.H. # C-17, B-6 & R-18). On April 14, 1981 and April 15, 1981 our forces located an additional sixteen (16) manholes exhibiting severe leakage problems. These are listed on the enclosed attachments which also identify the location of the leak(s) within the manholes. For the most part, these leaks are at the horizontal joints within the manholes. In addition, there are several (7) manhole runs that indicate an increase in flow between manholes with no visible justification for the increase. Two of these represent sizable flow increases and are listed as follows:

M.H. R-32 to R-33 (C-4, Sheet 22)

M.H. W-11 to W-12 (C-3, Sheet 16)

The less severe flow increases are also listed as follows:

M.H. D-50 to D-49 (C-2, Sheet 24)

M.H. H-11 to H-14 (C-3, Sheet 22)

M.H. H-22 to H-23 (C-3, Sheet 25)

M.H. G-12 to G-13 (C-1, Sheet 17)

M.H. J-11 to J-12 (C-1, Sheet 14)

It is possible these flow increases are the result of illegal discharges (sump pumps) to the lines or service line oriented. We will request the Authority to inspect the service connections in these areas to determine illegal connections, if any. Should this prove negative, we will request you provide T.V. inspection

Mr. Rodney Krebs

Page 2 of 2

of the lines in question. Failure to find any fault with your construction will result in payment for the T.V. inspection at the rate set forth in the Contract Proposal.

An additional leak to the HTMA system is in the Commerce Street Meter Station which is at the electric conduit entrance through the wall and at a joint in the concrete block near the base of the wall.

Based upon visual inspection to date we feel we have located the major leaks to the HTMA system which allowed approximately 400,000 gallons of I/I to the system each day of the last rainfall (April 11, 12, 13, & 14, 1981). Based upon 50¢/1,000 gallons, this I/I is costing the Authority approximately \$200/day and is needlessly consuming capacity in both transmission and treatment facilities.

Your immediate attention to this will be greatly appreciated.

Very Truly Yours  
ARROWOOD, INCORPORATED



William L. Arrowood, President  
WLA/pb

cc: HTMA  
Mr. James Smith - Corps of Engineers

## 6. Change Order Log

Grantee: Hamilton Township Municipal Auth.

Gravity Lines and Force Main (Contract Alternate No. 1)

Grant No.: C-420916-01

Change Order No.	Description	Date Initiated	Initiated By	EPA Approval Required	Approved by Grantee	Date of Approval Grantee	Approval Amount	New Contract Total	Time Extension Calendar Days	New Completion Date	Contract Documents Adjusted	New Eligible Items Total	New Ineligible Items Total
1	Temp. conn. to Ex. Boro. System near Int. Hood & Commerce	12/2/78	Auth	Yes	Yes	5/8/79	\$2,881	\$5,125,645	+3	7/06/80	Yes	\$4,668,411.00	\$457,233.00
2	Alignment Change at Int. N. Franklin St. ext. & Commerce St.	2/28/79	Auth	Yes	Yes	5/8/79	\$385.00	\$5,125,259.00	--	7/06/80	Yes	\$4,668,026.00	\$457,233.00
3	Alignment Change along LR 28006 & Property Owners Kaiser and Shetter	4/11/79	Auth	Yes	Yes	5/8/79	\$2,142	\$5,123,117	--	7/06/80	Yes	\$4,665,884.00	\$457,233.00
8	Alignment Change to Follow street in Carl Flohr Development	4/20/79	Auth	Yes	Yes	5/8/79	\$1,558	\$5,121,559	--	7/06/80	Yes	\$4,664,326.00	\$457,233.00
4	Alignment Change to miss storm sewer along Route 30	5/4/79	Auth	Yes	Yes	7/11/79	\$460	\$5,122,019	+1	7/07/80	Yes	\$4,665,081.00	\$456,938.00
5	Sewer Extension for New Dwelling off of T-532	9/24/79	Auth	Yes	Yes	10/10/79	\$3,570	\$5,125,589	+1	7/08/80	Yes	\$4,667,966.00	\$457,583.00
6	Sewer Extension on Hilltop Drive	10/5/79	Auth	Yes	Yes	10/10/79	\$1,793	\$5,127,382	+1	7/09/80	Yes	\$4,671,743.00	\$455,639.00
7	Sewer Extension for New Dwelling on James Street	10/8/79	Auth	Yes	Yes	10/10/79	\$8,802	\$5,136,184	+1	7/10/80	Yes	\$4,680,039.00	\$456,145.00

## 6. Change Order Log

Grantee: Hamilton Township Municipal Auth

Gravity Lines and Force Mains

Grant No.: C-420916-01

Change Order No.	Description	Date Initiated	Initiated By	EPA Approval Required	Approved by Grantee	Date of Approval Grantee	Approval Amount	New Contract Total	Time Extension Calendar Days	New Completion Date	Contract Documents Adjusted	New Eligible Items Total	New Ineligible Items Total
9	Sewer Extension for Existing Dwellings on Forest Road	10/12/79	Auth	Yes	Yes	1/16/80	\$5,430.00	\$5,141,624	+1	7/11/80	YES	\$4,685,872.00	\$455,742.00
10	Stub for Existing Mobile Home Park - PA 995	10/15/79	Auth	Yes	Yes	1/16/80	\$1,062.	\$5,142,686	--	7/11/80	Yes	\$4,685,872.00	\$456,804.00
13	Sewer Line Extension and Revisions	3/05/80	Auth	Yes	Yes	6/11/80	\$1,870.00	\$5,141,806	--	7/11/80	YES	Not Available	
14	Revise Connection to Borough Sewer	3/10/80	Auth	Yes	Yes	6/11/80	\$1,573.	\$5,143,379	+1	7/12/80	Yes	Not Available	
16	Revise Two Lateral Connections	3/18/80	Auth	Yes	Yes	6/11/80	\$272.00	\$5,143,651	--	7/12/80	Yes	Not Available	
15	Revise Grade of 24 LF Line on Cheesetown Road	3/17/80	Auth	Yes	Yes	6/11/80	\$2,101.	\$5,145,752	+1	7/13/80	Yes	Not Available	
17	Concrete Encasement	3/24/80	Auth	Yes	Yes	6/11/80	\$12,437	\$5,158,189	+3	7/16/80	Yes	Not Available	
19	Additional Township Road Restoration	5/30/80	Auth	Yes	Yes	7/23/80	\$188,225	\$5,346,414	45	8/30/80	*	Not Available	
20	Additional State Road Restoration	5/30/80	State	Yes	Yes		\$80,322	\$5,426,736	45	10/14/80	*	Not Available	

\* Awaiting Approval by Farmers Home Administration



## 6. Change Order Log

Grantee: Hamilton Township Municipal

Pump Stations (Contract No. 5)

Authority

Grant No.: C-420916-01

Change Order No.	Description	Date Initiated	Initiated By	EPA Approval Required	Approved by Grantee	Date of Approval Grantee	Approval Amount	New Contract Total	Time Extension Calendar Days	New Completion Date	Contract Documents Adjusted	New Eligible Items Total	New Ineligible Items Total
11	Pump Stations Add Diversion Chambers	2/19/80	Auth	Yes	Yes	3/12/80	\$853.00	\$851,701.00	45	8/14/80	Yes	\$851,701.00	---
12	Pump Stations Access Road Drainage Pump Station #4	3/17/80	Auth	Yes	Yes	6/11/80	\$95.00	\$852,496.00	--	8/14/80	Yes	\$852,496.00	---
18	Raise Grade for Pump Station No. 1	3/20/80	Auth	Yes	Yes	6/11/80	\$8,015.00	\$858,511.00	10	8/24/80	Yes	\$858,511.00	---

NOTE: Change orders numbered consecutively for project regardless of contract.

## CONTRACT ALT. NO. L (CONTINUED)

### Authority

Grant No.: C-420916-01

[illegible]

7. Construction inspection

Supervising Inspector & Employer M. McAllen (Arrowood, Inc.)

Inspectors & Employers Project Complete

Describe chain of command and efficiency of operation.

Inspectors report to Mr. McAllen, Resident Inspector, who reports to Mr.

Arrowood, President. Mr. Arrowood in turn reports to the Authority.

8. Treatment plant operation during construction. New N/A Addition         
If addition or modification, obtain past and present operational records.  
Include copies of permit data or complete the below:

Permit No. Not Applicable

Permit Parameters	Prior to Construction		During Construction	
	(Date <u>Infl</u>	<u>Effl</u>	(Date <u>Infl</u>	<u>Effl</u>

NOT APPLICABLE

9. Plant or Unit Process Bypassing During Construction Not Applicable

10. Milestone Dates:\* (Repeat below for additional contracts.)

Contract	Actual %	Milestone %	O&M Date	ICR Date	UCS Date	SUO Date	Facilities Operating Staff (Incl. Certifications)
ALL	99	50% (Draft)	B 4/12/79			<del>X</del>	Plant Operator: Not Applicable
		80% (Final)	<del>X</del>	B * 1/17/80	B * 1/8/80	(B) 12/7/71	
		90% (Final)	B 8/15/80	<del>X</del>	<del>X</del>	<del>X</del>	Full Staff: Employed by Authority.
							G. Gerellis - Administrator
							J. Wingert - Inspector
							T. Nickles - Inspector
							J. Carr - Secretary
							* Dates listed are EPA Approval Dates for ICR
							(Not Applicable) and UCS.

\* J - Target  
B - Actual

**Section III. Interferences to job** (Strikes, equipment, deliveries, etc., and proposed resolution).

None

**Section IV. Permit Program**

1. Was a Section 404 or Section 404/10 permit issued? Yes \_\_\_\_\_ No X
2. If yes, does construction appear to be in compliance with the plans and conditions of the permit?
3. If no, is any work being performed or proposed in any waterway, wetlands, etc.? Yes X (give details) No \_\_\_\_\_

Four small stream crossings are in contract and covered by Nationwide Blanket Permit. Construction has been completed on all crossings.

**Section V. Quality of Construction** All testing complete.

1. Test Requirements: (Repeat below for additional contracts.)			
Contract: 1 thru 4 - Gravity and Force Mains		Substantial Completion issued for Pipelines 19 November 1979.	
ALL TESTING COMPLETE.	Spec. Requirements	Test Result	Final Resolution
Soil Compaction	90% of max. dry density by AASHTO Method T-99 Maximum of 50 tests for Contracts 1 thru 4, plus alternates.	No tests since last Interim: Previous Tests Avg. 92.9% Compaction	Passed.
Concrete Cylinder	Class A(Structural)3,000 psi min Class B(Non-Struc.)2,500 psi min	No test run since last interim.	---
Equipment	Certifications for pipe and pre-cast manholes on file at field office.		
Sewer Line Grades	Branches and centerline of manholes checked by Contractor Cut sheets submitted to and checked by Inspectors, who also	No errors have been encountered by follow-up surveys on inverts. Alignment checked prior to backfill. check grades daily.	
Gravity Lines	Low Pressure Air Test	All Lines Tested.	Passed
Pressure Lines	Hydrostatic water test @ 150 psi for two hours.	All Lines Tested.	Passed.
Manholes	Infiltration/Exfiltration Tests as needed.	Spot checked for infiltration. Repaired where needed.	Passed.

Contract: 5 - Pumping Stations All Stations Operational.			
	Spec. Requirement	Test Result	Final Resolution
Soil Compaction	None, except for subgrade replaced with fill, which is compacted to 90% (AASHTO T-99).	Fill for PS# 1	Passed.
Concrete Cylinder	Class A (Structural) 3,000 psi min. Class AA (Structural Fill) 4,000		4,521 avg. to date. 5,342 avg. to date.
Equipment	Operational Tests at factory and after installation of pumps and generators. Shop Drawings on file and approved.	PS 1 thru 5 substantially complete.	
Sewer Line Grades	Checked by Inspectors	No problems to date.	
Gravity Lines - Pressure Lines - Manholes -	Low Pressure Air Test Two hr. Hydrostatic 150 psi Exfiltration/Infiltration as needed.	All pipes tested and approved for PS 1 thru 5.	Passed.

Contract:			
	Spec Requirement	Test Result	Final Resolution
Soil Compaction			
Concrete Cylinder			
Equipment			
Sewer Line Grades			
Other			

2. Appearance of Construction (By Contract)

Concrete work COMPLETE

Earth work COMPLETE

Electrical work COMPLETE

Form and Frame work COMPLETE

Masonry work COMPLETE

Mechanical work COMPLETE

Pipeline construction COMPLETE

Paving and street repair COMPLETE

3. Project Sign Two, erected at field office.
4. Federal Wage Rates Posted Construction Complete.
5. General Project Maintenance and Site Conditions Overall project area  
satisfactory.

Section VI. Summary of Significant Construction or Management Deficiencies.


None.



Section VII. Brief abstract of the interim inspection.

1. Since construction is complete, this inspection conducted during discussions with persons listed on Page 1.
2. Overall construction of project is complete, both pipelines and pump stations, and is operating satisfactorily. Punch list items and some restoration work which failed due to last year's drought are to be completed in the Spring. See Attachments No. 1 thru 4 for listings.  
O&M Manual was submitted to PennDER on 15 August 1980, and is currently under review. All other special grant conditions have been satisfied.
3. EPA Grant Payments have been made for 81% of eligible project costs. Final grant payment request package is presently being prepared for a submission, approximately 1 April 1981.
4. Total of 21 change orders have been issued to date on the project for a total cost of \$324,475.00 of which \$268,547.00 is for state and township road restoration, which may not be eligible for participation. Available contingency is \$275,422.00.
5. Overall project condition at the time of this inspection is satisfactory.

Inspector's Signature

  
JAMES A. SMITH, JR., P.E.  
Chambersburg Area Office  
Corps of Engineers

Date 20 January 1981

LISTING OF ITEMS OF WORK AND/OR

**ARROWOOD, INCORPORATED**

**ENGINEERING — SURVEYING**

P. O. BOX 433

CHAMBERSBURG, PENNSYLVANIA 17201

PHONE 263-8794

Sewerage, Drainage, Sewage  
& Industrial Wastes Treatment  
Water Supply & Water Treatment  
Refuse Disposal  
Reports & Appraisal

Planning & Zoning  
Roads & Streets  
Municipal Engineering  
Surveying & Estimating

December 10, 1980

Mr. Jack Richards  
Conewago Contractors, Incorporated  
Post Office Box 143  
Hanover, Pennsylvania 17331

Re: Hamilton Township Municipal  
Authority  
C-420916-01  
Contract No. 5

Dear Mr. Richards:

With regard to the subject you will find enclosed a listing of items remaining to be completed. The listing is presented in two sections with the first section relates to work items that are either incomplete or remain to be corrected. The second section presents a listing of material(s) spare parts, special tools, etc. that remain to be provided to the Authority.

This office would like to finalize this project so that a request for final inspection and audit can be made to Environmental Protection Agency by the end of this month (December 1980). Your immediate attention to these items will be greatly appreciated.

Very Truly Yours  
ARROWOOD, INCORPORATED



William L. Arrowood, President  
WLA/pb

cc: Hamilton Township Municipal Authority  
U. S. Corps of Engineers  
Farmers Home Administration

4. Quick disconnect ends (female) for Scott Air Pack (2 pieces)
5. Spare parts for sump pumps (See 1-A, PS-M&E-18)
6. Spare pump alternators (See 1-B, PS-M&E-18)
7. As-built wiring diagrams for P.S. # 1, # 2, # 3, # 4 & # 5 electric panels
8. Aluminum plate with lettering at all pumping stations. (Pumping station identification sign)

COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF TRANSPORTATION



FILE

District 8-0 - Permit Office  
Twenty-first and Herr Streets  
Harrisburg 17120  
November 10, 1980

IN REPLY REFER TO

Tel: (717)787-5907

Hamilton Township Municipal Auth.  
1066 Lincoln Way West  
Chambersburg, Pennsylvania 17201

Attention: Mr. H. N. Fix, Chairman

Re: Permit # 324284

Agreement# 062711

Gentlemen:

We have been advised by our County Permit Inspector that all items of work on the referenced permit have been completed to the satisfaction of the Department on November 6, 1980. Department inspection charges will be ended and the subject permit closed out as of November 6, 1980.

You are relieved of any further restoration responsibilities on the permit work at this time. However, you are reminded of your obligation for two (2) years after completion of the permitted work, in accordance with Section 41.7(17), and your bond obligation for one (1) year in accordance with Section 41.7(14) (i), both of the Department Regulations, Chapter 41. Any further work to be accomplished within state highway right-of-way in connection with your facility will require you to obtain another occupancy permit in every instance.

Very truly yours,

*Ray W. Feeman*  
for Robert R. Mueser, P. E.  
District Engineer  
District 8-0

WAB/RWF/meb

Contact person:  
Ray W. Feeman (717)787-5907

Attachment 12.2

DATE: November 7, 1980

PERMIT # P-324284

AGREEMENT # 062711

PERMITTEE Hamilton Township  
Municipal Authority

Pennsylvania Department of Transportation  
District 8-0, Permit Office  
Twenty-first and Herr Streets  
Harrisburg, Pennsylvania 17120

Gerl Construction Company

This is to advise that the contractor(s) Conewago Contractors Inc.

have/~~has~~ completed all notes taken at the semi-final restoration inspection

of July 24, 1979, to the satisfaction of the Department  
(date)

on November 6, 1980 on the referenced project. The detour was removed  
(date)

on No detour, and the roadway opened to traffic.  
(date)

Inspection charges will be ended as of November 6, 1980.  
(date)

Very truly yours,

William B. Bennett  
County Permit Inspector - District 8-(3)

# ARROWOOD, INCORPORATED

ENGINEERING — SURVEYING

P. O. BOX 433

CHAMBERSBURG, PENNSYLVANIA 17201

PHONE 263-8794

Sewerage, Drainage, Sewage  
& Industrial Wastes Treatment  
Water Supply & Water Treatment  
Refuse Disposal  
Reports & Appraisal

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Roads & Streets  
Municipal Engineering  
Surveying & Estimating

November 14, 1980

Mr. Rodney Krebs  
The Gerl Construction Company  
Route #2  
Post Office Box 21  
Glen Rock, Pennsylvania 17327

Re: Hamilton Township Municipal Authority  
Partial Substantial Completion  
Certification E.P.A. Project  
No. C-420916-01

Dear Mr. Krebs:

Certification of substantial completion of township roads on the Hamilton Township Municipal Authority Project directly relating to work performed by The Gerl Construction Company is hereby given as of November 13, 1980.

A final inspection of the township roads was performed on November 12, 1980. Those present from Hamilton Township were Mr. Nelson Runyon and Mr. James Hollenshead, also present were Mr. William L. Arrowood and Matthew H. McAllen from Arrowood, Incorporated.

Maintenance liability (maintenance bond) on the township roads shall begin on November 13, 1980 and continue for a period of one year. However, as a result of the final inspection the following items were noted that need to be corrected.

1. Crottletown Road - C.P.-2 paving is broken up near M.H. C-17.
2. C.P.-2 paving is breaking along the edge of road at the intersection of Adin Lane and Brechhill Road.
3. Two badly sunken spots on Johnson Road.
4. Gabler Road - sunken spot in trench near M.H. C-14.
5. Hillcrest Avenue - macadam is low around M.H. U-10.
6. Hamilton Street - lateral trenches are sunken.
7. Madison Street - lateral trenches are sunken.
8. Paper Mill Road - lateral trenches are sunken.

Mr. Rodney Krebs

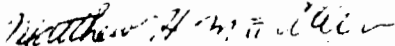
Page 2 of 2

9. Boyermill Road - lateral trenches are sunken.
10. Sunset Street - lateral trenches are sunken.
11. Leafmore Road - lateral trenches are sunken near the intersection of Forest Road.
12. Forest Road - sunken area in trench near the intersection of Frank Road.

We trust that these items will be corrected.

Accordingly the undersigned, as resident inspector of the project engineering firm, hereby submits this letter as certification of substantial completion of the township roads, subject to the conditions contained herein and as provided by the Contract Documents.

Very truly yours,  
ARROWOOD, INCORPORATED



Matthew H. McAllen  
MHM/cs

cc: Environmental Protection Agency, Jeffrey Pike  
Corps of Engineers, James A. Smith Jr., P.E.  
Hamilton Township Municipal Authority, George Geralis  
Arrowood Incorporated, William L. Arrowood

# ARROWOOD, INCORPORATED

ENGINEERING — SURVEYING

P. O. BOX 433

CHAMBERSBURG, PENNSYLVANIA 17201

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Municipal Engineering  
Surveying & Estimating

October 8, 1980

Mr. Rodney Krebs  
The Gerl Construction Company  
Route #2  
Post Office Box 21  
Glen Rock, Pennsylvania 17327

Re: Hamilton Township Municipal Authority  
Partial Substantial Completion  
Certification E.P.A. Project  
No. C-420916-01

Dear Mr. Krebs:

Certification of substantial completion of portions of the Hamilton Township Municipal Authority project directly relating to work performed by The Gerl Construction Company are listed on attached sheets.

Various portions of the project have been constructed by your firm in accordance with the Contract Documents and Specifications. The portions thus constructed have been tested and found to meet the requirements of the tests.

Substantial completion of the attached listing of manhole runs is pertaining to gravity sewers, manholes, service laterals and force main.

Surface restoration will be addressed as a separate issue. As stated in correspondence of February 29, 1980.

Maintenance liability (Maintenance Bond) on the facilities listed shall be construed to begin on the day following the date of completion indicated and shall continue for a period of one year. This liability shall cover the gravity sewers, manholes, service laterals, and force main. This shall not relieve your company of liability with regard to any damage claim that has, or may be filed, as a result of the construction of these facilities.



Mr. Rodney Krebs

Page 2 of 2

Accordingly, the undersigned, as Resident Inspector of the Project Engineering Firm, hereby submits this letter as certification of substantial completion of the facilities listed on attached sheets, subject to the conditions contained herein and as provided by the Contract Documents.

Very truly yours,  
ARROWOOD, INCORPORATED

*Matthew H. McAllen*  
Matthew H. McAllen  
MHM/es

cc: William L. Arrowood  
Hamilton Township Municipal Authority  
James Smith, Corps of Engineers  
Jeffrey Pike, Environmental Protection Agency

Enclosures: Listings

# ARROWOOD, INCORPORATED

ENGINEERING — SURVEYING

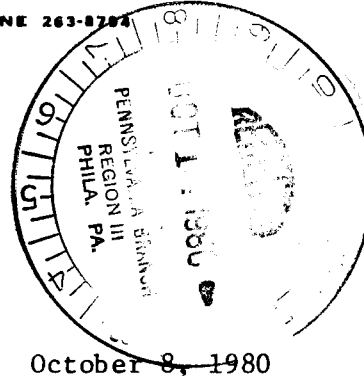
P. O. BOX 433

CHAMBERSBURG, PENNSYLVANIA 17201

PHONE 263-8784

Sewerage, Drainage, Sewage  
& Industrial Wastes Treatment  
Water Supply & Water Treatment  
Refuse Disposal  
Reports & Appraisal

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Roads & Streets  
Municipal Engineering  
Surveying & Estimating



October 8, 1980

Mr. Rodney Krebs  
The Gerl Construction Company  
Route #2  
Post Office Box 21  
Glen Rock, Pennsylvania 17327

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Partial Substantial Completion  
Certification E.P.A. Project  
No. C-420916-01

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Mr. Rodney Krebs

Page 2 of 2

Accordingly, the undersigned, as Resident Inspector of the Project Engineering Firm, hereby submits this letter as certification of substantial completion of the facilities listed on attached sheets, subject to the conditions contained herein and as provided by the Contract Documents.

Very truly yours,  
ARROWOOD, INCORPORATED

*Matthew H. McAllen*

Matthew H. McAllen  
MHM/cs

cc: William L. Arrowood  
Hamilton Township Municipal Authority  
James Smith, Corps of Engineers  
Jeffrey Pike, Environmental Protection Agency

Enclosures: Listings

SUBSTANTIALLY COMPLETED LINES, AUGUST 18, 1980 AS FOLLOWS:

Ex-250 to D-1  
D-1 to D-2  
C-4 to C-5  
C-5 to C-6  
C-6 to C-7  
C-7 to C-8  
C-9 to C-10  
C-10 to C-11  
C-11 to C-12  
C-12 to C-13  
C-13 to C-14  
C-14 to C-15  
C-15 to C-16  
C-16 to C-17

SUBSTANTIALLY COMPLETED LINES, AUGUST 18, 1980 AS FOLLOWS:

P-1 to P-2  
P-2 to P-3  
P-3 to P-4  
P-4 to P-5  
P-5 to P-6  
P-6 to P-7  
P-7 to P-8  
P-8 to P-9  
P-9 to P-17  
P-9 to P-10  
P-10 to P-11  
P-11 to P-12  
P-12 to P-13  
P-13 to P-14  
P-14 to P-15  
P-15 to P-16  
P-1 to B-1  
B-1 to B-2  
B-2 to B-3  
B-3 to B-4  
B-4 to B-5  
B-5 to B-6  
B-6 to B-7  
B-7 to B-8  
B-8 to B-9  
B-9 to B-10  
B-10 to B-11  
B-11 to B-12  
B-12 to B-13  
B-13 to B-14  
B-14 to B-15  
B-15 to B-16  
B-16 to B-17  
B-17 to B-18

SUBSTANTIALLY COMPLETED LINES, AUGUST 18, 1980 AS FOLLOWS:

E-1 to E-2  
E-2 to E-3  
E-4 to F-1  
E-3 to E-4  
E-4 to E-5  
E-5 to E-6  
E-6 to E-7  
E-7 to E-8  
E-8 to E-9  
E-9 to E-10  
E-10 to E-11  
E-11 to E-12  
E-12 to E-13  
E-13 to E-14  
E-14 to E-15  
E-15 to E-16  
E-16 to E-17  
E-17 to E-18  
E-18 to E-19  
E-19 to E-20  
E-22 to E-24  
E-24 to E-25  
E-26 to E-27  
E-17 to E-26  
E-27 to E-36  
E-27 to E-28  
E-28 to E-29  
E-29 to E-30  
E-30 to E-31  
E-31 to E-31A  
E-31A to E-32  
E-32 to E-33  
E-11 to E-37  
E-37 to E-38  
E-28 to E-35  
E-38 to E-39  
E-39 to E-40  
E-31A to E-34

SUBSTANTIALLY COMPLETED LINES, AUGUST 18, 1980 AS FOLLOWS:

W-7 to W-7A  
W-7A to W-15  
W-8 to W-15  
W-8 to W-9  
W-9 to W-10  
W-10 to W-11  
W-11 to W-12  
W-12 to M-25

SUBSTANTIALLY COMPLETED LINES, AUGUST 18, 1980 AS FOLLOWS:

D-61 to D-62  
D-62 to D-63  
D-63 to D-64  
D-64 to D-65  
D-65 to D-66  
D-66 to Ex. 15  
D-64 to CF-8  
CF-2 to CF-3  
CF-3 to CF-4  
CF-4 to CF-5  
CF-5 to CF-6  
CF-6 to CF-7  
CF-7 to CF-8



SUBSTANTIALLY COMPLETED LINES, AUGUST 18, 1980 AS FOLLOWS:

NE-1 to NE-1A  
NE-1A to NE-2  
NE-2 to NE-3  
NE-3 to NE-4  
NE-4 to NE-5  
NE-5 to NE-6  
NE-6 to NE-7  
NE-7 to NE-8  
NE-8 to NE-9  
NE-9 to NE-10  
NE-10 to NE-11  
NE-11 to NE-12  
NE-12 to NE-13  
NE-13 to NE-14  
NE-14 to NE-15  
NE-15 to NE-16  
NE-16 to NE-17  
NE-17 to NE-18  
NE-18 to NE-19  
NE-19 to D-45  
NE-8 to NE-20  
NE-20 to NE-21  
NE-24 to NE-21  
NE-21 to NE-22  
NE-22 to NE-23  
NE-4 to NE-25  
NE-25 to NE-26  
NE-26 to NE-27  
NE-27 to NE-28  
NE-28 to NE-29  
NE-29 to NE-30  
NE-30 to NE-31  
NE-29 to NE-32  
NE-28 to NE-33  
NE-33 to NE-34  
NE-34 to NE-35  
NE-35 to NE-36  
NE-36 to NE-37  
NE-38 to NE-39  
NE-40 to NE-41

SUBSTANTIALLY COMPLETED LINES, AUGUST 18, 1980 AS FOLLOWS:

F-1 to F-2  
F-2 to F-3  
F-3 to F-4  
F-4 to F-5  
F-5 to F-6  
F-6 to F-7  
F-7 to F-8  
F-6 to F-12  
F-7 to F-13  
F-4 to F-14  
F-8 to F-8A  
F-8A to F-9  
F-8A to F-8B  
F-8B to F-8C  
F-8C to F-8D  
F-8D to F-8E  
F-9 to F-10  
F-10 to F-11  
F-14 to F-15  
F-15 to F-16  
F-8B to E-22

SUBSTANTIALLY COMPLETED LINES, AUGUST 18, 1980 AS FOLLOWS:

B-6 to M-1  
M-1 to M-2  
M-2 to M-3  
M-3 to M-4  
M-4 to M-5  
M-4 to M-8  
M-5 to M-6  
M-6 to M-7  
M-1 to M-9  
M-9 to M-10  
M-10 to M-11  
M-11 to M-12  
M-12 to M-28  
M-12 to M-13  
M-13 to M-14  
M-14 to M-15  
M-15 to M-16  
M-13 to M-26  
M-26 to M-27  
M-16 to M-17  
M-17 to M-18  
M-18 to M-19  
M-19 to M-20  
M-20 to M-21  
M-17 to M-23  
M-21 to M-22  
M-23 to M-24  
M-24 to M-25

SUBSTANTIALLY COMPLETED LINES, AUGUST 18, 1980 AS FOLLOWS:

S-17 to S-18  
S-18 to S-19  
S-19 to S-20  
S-20 to S-21  
S-21 to S-22  
S-22 to S-23  
S-23 to S-24  
S-24 to S-24A  
S-24A to S-25  
S-25 to S-26  
S-26 to S-27  
S-27 to S-28  
S-28 to S-29  
S-29 to S-30  
S-30 to S-31  
S-31 to S-32  
S-32 to S-33  
S-33 to S-34  
S-34 to S-35  
S-35 to S-36  
S-33 to S-37  
S-37 to S-38  
S-21 to S-39  
S-39 to S-40  
S-40 to S-41  
S-41 to S-42  
S-42 to S-43  
S-24 to S-44  
S-44 to S-45  
S-45 to S-46  
S-46 to S-47  
S-47 to S-48  
S-48 to S-49  
S-49 to S-50  
S-50 to S-51  
S-51 to S-52  
S-52 to S-53  
S-53 to S-54  
S-54 to S-55  
S-55 to S-56  
S-56 to NE-1  
S-56 to S-57  
S-57 to S-58  
S-58 to S-59  
S-59 to S-60

SUBSTANTIALLY COMPLETED LINES, AUGUST 18, 1980 AS FOLLOWS:

R-1 to E-1  
R-1 to R-2  
R-2 to R-3  
R-3 to R-4  
R-4 to R-5  
R-5 to R-6  
R-6 to R-7  
R-7 to R-8  
R-8 to R-9  
R-9 to R-10  
R-10 to R-11  
R-11 to R-12  
R-12 to R-13  
R-13 to R-14  
R-14 to R-15  
R-15 to R-16  
R-16 to R-17  
R-17 to R-18  
R-18 to R-19  
R-19 to R-20  
R-20 to R-21  
R-21 to R-22  
R-22 to R-23  
R-23 to R-24  
R-24 to R-25  
R-25 to R-26  
R-26 to R-27  
R-27 to R-28  
R-28 to R-29  
R-29 to R-30  
R-30 to R-31  
R-31 to R-32  
R-31 to R-36  
R-31 to C.O. # 10  
R-32 to R-33  
R-33 to R-34  
R-34 to R-35  
R-26 to R-43  
R-41 to R-42  
R-42 to R-43  
R-5 to R-37  
R-37 to R-38  
R-38 to R-39  
R-39 to R-40  
R-40 to R-40A  
R-20 to R-41  
R-42 to R-43  
R-41 to R-42

SUBSTANTIALLY COMPLETED LINES, AUGUST 18, 1980 AS FOLLOWS:

Force Main from Pumping Station # 2 to M.H. D-30  
Force Main from Pumping Station # 3 to M.H. C-5  
Force Main from Pumping Station # 4 to M.H. W-12  
Force Main from Pumping Station # 5 to M.H. W-14

SUBSTANTIALLY COMPLETED LINES, SEPTEMBER 8, 1980 AS FOLLOWS:

NE-37 to NE-38

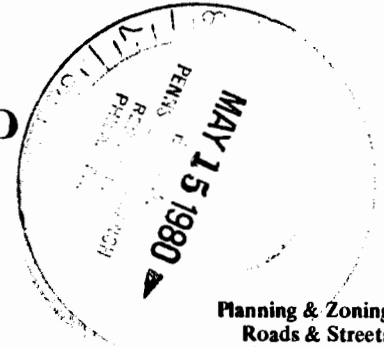
# ARROWOOD, INCORPORATED

ENGINEERING — SURVEYING

P. O. BOX 433

CHAMBERSBURG, PENNSYLVANIA 17201

PHONE 263-8794



Sewerage, Drainage, Sewage  
& Industrial Wastes Treatment  
Water Supply & Water Treatment  
Refuse Disposal  
Reports & Appraisal

Planning & Zoning  
Roads & Streets  
Municipal Engineering  
Surveying & Estimating

May 13, 1980

Ms. Barbara D'Angelo  
Environmental Protection Agency  
6th & Walnut Streets  
Philadelphia, Pennsylvania 19106

Dear Barbara:

The Corps of Engineers has indicated that there is a 1979 Region III "Federal Requirements and Contract Provisions for work under the Federal Water Pollution Control Act."

Please send a copy so that we can use this in the latest update of Cashtown Specifications.

Thanks for your time and interest in this matter.

Very Truly Yours  
ARROWOOD, INCORPORATED

*David C. Horneys*  
David C. Horneys, P.E.  
DCH/pb

*sent 6/6/80*





IN REPLY REFER TO

NAPOP-PH

DEPARTMENT OF THE ARMY  
PHILADELPHIA DISTRICT, CORPS OF ENGINEERS  
CUSTOM HOUSE—2 D & CHESTNUT STREETS  
PHILADELPHIA, PENNSYLVANIA 19106

*Barb*  
12 March 1980

Mr. Harry N. Fix, Chairman  
Hamilton Township Municipal Authority  
R. D. # 4  
Chambersburg, PA 17201

Dear Mr. Fix:

Re: Grant No. C-420916-01, Hamilton Township Municipal Authority

This will acknowledge receipt of the letter from Project Consultant, Arrowood, Inc., dated 13 February 1980 concerning cold weather concrete work on the referenced project. Of particular concern, were the problems associated with proper curing protection for the slab at Pumping Station No. 1.

The cold weather requirements outlined on Page 2 of that letter adequately address the problem and, if enforced, should prevent any damage to future concrete placed during sub-freezing temperatures. However, since the concrete cylinders taken for the slab at Pump Station No. 1 were cured under ideal conditions, they are not truly representative of the field condition of the slab, and any damage that may have occurred.

During a recent site inspection by Mr. James Smith, Chambersburg Area Office, he was advised that the contractor, Conewago Contractors, Inc., had recently taken several inplace core borings of the slab in question. These should provide a much more accurate sampling of the concrete and any damage that may or may not have occurred.

Would you kindly inform Mr. Smith of the results of both the cylinder and core tests and any action taken on the acceptability of the slab for Pump Station No. 1.

COE

NAPOP-PH

12 March 1980

Mr. Harry N. Fix, Chairman

In another area, a question has arisen concerning the disposal of waste debris as a result of clearing operations under Contract No. 5B. Section PS-E-1, "Disposal of Cleared and Grubbed Material", states that all material not salvaged for other uses shall be disposed of at a landfill or disposal site licensed by the Pennsylvania Department of Environmental Resources. The Resident Project Office should verify the acceptability of the disposal site being used prior to the next Interim Construction Inspection, scheduled for 20 March 1980, which will be attended by a Pennsylvania Department of Environmental Resources Representative.

If you have any questions, please contact Mr. Smith at 717-264-8012.

Sincerely,

1 Incl  
Arrowood 13 Feb Ltr

EDWIN A. KUCERIK  
Project Engineer  
Philadelphia Project Office

Copy Furnished:

Mr. William L. Arrowood, President w/Incl  
Arrowood, Inc.  
Mr. Dennis P. Capella w/Incl ✓  
Environmental Protection Agency  
Mr. Brij M. Garg w/Incl  
Pennsylvania Department of  
Environmental Resources  
Mr. Frederick A. Marrocco w/Incl  
Harrisburg Regional Ofc, PennDER  
Mr. James A. Smith, Jr., P.E. w/Incl  
Chambersburg Area Engineer  
Corps of Engineers

# ARROWOOD, INCORPORATED

ENGINEERING — SURVEYING

P. O. BOX 433

CHAMBERSBURG, PENNSYLVANIA 17201

PHONE 263 8784

Sewerage, Drainage, Sewage  
& Industrial Wastes Treatment  
Water Supply & Water Treatment  
Refuse Disposal  
Reports & Appraisal

Manning & Zoning  
Roads & Streets  
Municipal Engineering  
Surveying & Estimating

February 13, 1980

Conewago Contractors, Incorporated  
Box 143  
Hanover, Pennsylvania 17331

Re: Hamilton Township Municipal  
Authority  
Contract Alternate No. 5B

Gentlemen:

This letter is directed to you as a result of a job conference held on Wednesday February 6, 1980 relative to the subject. As a result of that conference it would appear that there has been a temporary lack of clear communication between your firm and the project Engineer relative to construction activities on the Hamilton Township Municipal Authority project. This lack of clear communication was resolved by recorded stipulations cited at the construction conference which are within the limitations of the contract provisions governing the performance of the work by your company.

The essence of these stipulation is that your firm is to perform no further work activity until and unless you notify the project Engineer of the planned activity one work day in advance of its scheduled performance. This stipulation resulted from the situation that your firm did pour a foundation slab for Pumping Station No. 1 without the presence of a project Engineer Inspector and without written permission of the Project Engineer with regard to cold weather concreting procedures.

As a result, the Pumping Station No. 1 foundation slab has been determined to be unacceptable for payment until the submission of concrete test cylinder results showing that the uninspected pour resulted in satisfactory tests. Furthermore, it was stipulated that the test cylinders must be subjected to the same curing environment of the pour undergoing evaluation in order for payment to be authorized. To subject test cylinders to an ideal curing environment without providing the same environment to the slab is unacceptable to this office and the Authority. This position has been confirmed by Mr. Smith, Corp of Engineer representative.

Cold weather concreting requirements outlined to your Mr. Richards on February 2 & 6, 1980 are as follows:

1. No concrete shall be poured without the presence of an inspector.
2. Notice of any work activity is to be given at least one work day in advance of the planned activity.
3. Cold weather provisions must be submitted in advance and approved in writing by the Engineer.
4. ACI code requirements shall prevail for all concrete work with the following generalizations extracted from the code for your convenience:
  - a. The temperature of any concrete being placed in any pour must be 50 - 55° F or higher and preferably not above 80° F.
  - b. Temperature of the poured concrete must be maintained at 50 - 55° F or higher in a humid or wet atmosphere for at least seventy two (72) hours after pouring and setting. For the next ninety six (96) hours temperatures must be maintained above 32° F.
  - c. If it is determined that a heating device will be necessary to maintain temperatures at the required levels, the device must be such that it does not provide for excessive drying of the concrete.
  - d. Concrete test cylinders shall be taken for all pours and shall be stored until testing in the same environment of the pour.

We trust this correspondence clearly sets forth the position of this office and of Hamilton Township Municipal Authority and that there will be no repetition of work being performed without a clear advance notice to our project inspector.

Very Truly Yours  
ARROWOOD, INCORPORATED



William L. Arrowood, President  
WLA/pb

cc: Hamilton Township Municipal Authority  
James Smith (U. S. Corp of Engineers)  
Matthew H. McAllen (Arrowood, Inc. Field Office)

# ARROWOOD, INCORPORATED

ENGINEERING — SURVEYING

P. O. BOX 433

CHAMBERSBURG, PENNSYLVANIA 17201

PHONE 263-8794

Sewerage, Drainage, Sewage  
& Industrial Wastes Treatment  
Water Supply & Water Treatment  
Refuse Disposal  
Reports & Appraisal



Planning & Zoning  
Roads & Streets  
Municipal Engineering  
Surveying & Estimating

February 29, 1980

Mr. Rodney Krebs, Vice President  
The Gerl Construction Company  
Route # 2  
Post Office Box 21  
Glen Rock, Pennsylvania 17327

Re: Partial Substantial Completion  
Hamilton Township Municipal Authority  
Project  
Gerl letter dated February 27, 1980

Dear Mr. Krebs:

With regard to the subject please be advised that our correspondence of February 19, 1980 specifically addressed substantial completion of gravity lines, service lines, manholes, and excavation/backfill of those facilities and excluded surface restoration related to those facilities.

Surface restoration completion will be addressed as a separate issue, again with staggered dates corresponding to the dates of completion and approval by this office.

Restoration of paved areas will be considered complete the day when final paving has been considered to have been placed.

Restoration of unpaved areas will be considered complete when the area has either been graded to final grade (gravel areas) or has obtained a growth of grass on areas required to be seeded.

To date, some sections of your contract has final restoration utilizing paving (three sections of state highways). Also, some sections have been seeded with some of the work washed out by rains before a stand of grass was obtained. Some of these areas will have to be re-done, while those exhibiting a stand of grass will be acceptable as complete from the date the stand of grass was observed by

Mr. Rodney Krebs

Page 2 of 2

our field inspectors. Your office should review our records on this in order to properly direct restoration crews in the upcoming spring months.

Very Truly Yours  
ARROWOOD, INCORPORATED



William L. Arrowood, President  
WLA/pb

cc: Hamilton Township Municipal Authority  
Arrowood, Incorporated Field Office  
Barbara D'Angelo, Environmental Protection Agency  
James Smith, U.S. Corps of Engineers

WATER  
SEWER  
DRAINAGE  
CONSTRUCTION

# *The Gerl Construction Company*

General Contractors

R. D. 2, P. O. BOX 21 • GLEN ROCK, PA. 17327 • 717/235-6839

PARKING LOTS  
DEMOLITION  
EQUIP. RENTAL  
PAVING CONSTRUCTION

February 27, 1980

Mr. William L. Arrowood  
Arrowood, Inc.  
P. O. Box 433  
Chambersburg, PA 17201

Re: H.T.M.A. Contract Alt. No. 1A  
Partial Substantial Completion

Dear Mr. Arrowood:

I am in receipt of your letter dated February 19, 1980, in which you document substantial completion dates for gravity sewers, manholes and service laterals for listed portions of the above referenced contract. However, I wish to take exception to one of the statements made in that letter.

In the first paragraph of that letter, Sub-paragraph #3, you state, "... it shall be assumed that all final surface restoration work on these lines remains to be completed ...." This is simply not the case; at the date of your writing, many of these listed portions of the contract had been completed including surface restoration.

I suggest you modify your statement of partial substantial completion, taking into account those areas of the contract where final surface restoration had been completed. I will await your revisions.

Sincerely,

THE GERL CONSTRUCTION COMPANY



Rodney L. Krebs  
Vice President

RLK/1a

cc: Hamilton Township Municipal Authority  
James Smith, Corps of Engineers  
Barbara D'Angelo, Environmental Protection Agency  
Arrowood, Inc. Field Office



*Barb*



# ARROWOOD, INCORPORATED

ENGINEERING — SURVEYING

P. O. BOX 433

CHAMBERSBURG, PENNSYLVANIA 17201

PHONE 263-8794

Sewerage, Drainage, Sewage  
& Industrial Wastes Treatment  
Water Supply & Water Treatment  
Refuse Disposal  
Reports & Appraisal

Planning & Zoning  
Roads & Streets  
Municipal Engineering  
Surveying & Estimating

February 19, 1980

Mr. Rodney Krebs  
The Gerl Construction Company  
Route # 2  
Post Office Box 21  
Glen Rock, Pennsylvania 17327

Re: Hamilton Township Municipal Authority  
Partial Substantial Completion  
Certification  
EPA Project # C-420916-01

Dear Mr. Krebs:

In response to your request for certification of substantial completion of portions of the Hamilton Township Municipal Authority project directly relating to work performed by The Gerl Construction Company. Please be advised as follows:

1. Various portions of the project have been constructed by your firm in accordance with the Contract Documents and Specifications.
  - a. The portions thus constructed have been tested and found to meet the requirements of the tests.
2. For the most part, the portions of the project thus constructed consist of gravity sewers, manholes, and service laterals.
3. For the purposes of this documentation, it shall be assumed that all final surface restoration work on these lines remains to be completed, together with maintenance responsibilities in accordance with the Contract Documents.
4. Construction completion of the subject gravity sewers, manholes, and service laterals; together with testing has been accomplished at various times, and accordingly this documentation of substantial completion shall have the effect of imposing the final testing date as the date of substantial completion.
  - a. The attached listing of manhole runs together with their respective completion dates shall be used as the official documentation for maintenance liability under the terms of the Contract Documents.



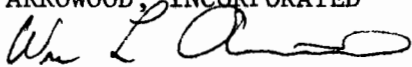
Mr. Rodney Krebs

Page 2 of 2

5. Maintenance Liability (Maintenance Bond) on the facilities listed in Item 4a shall be construed to begin on the day following the date of completion indicated and shall continue for a period of one year. This Liability shall cover the gravity sewers, manholes, service laterals, excavation, and backfill. This shall not relieve your company of liability with regard to any damage claim that has, or may be filed, as a result of the construction of these facilities.

Accordingly, the undersigned, as principal officer of the project Engineering Firm, hereby submits this letter as certification of substantial completion of construction of the facilities listed under Item 4a subject to the conditions contained herein and as provided for by the Contract Documents.

Very Truly Yours  
ARROWOOD, INCORPORATED



William L. Arrowood, President  
WLA/pb

cc: Hamilton Township Municipal Authority  
James Smith, Corps of Engineers  
Barbara D'Angelo, Environmental Protection Agency  
Arrowood, Inc. Field Office

Encl: Listing

HAMILTON TOWNSHIP MUNICIPAL AUTHORITY

LISTING OF COMPLETED FACILITIES

THE GERL CONSTRUCTION COMPANY

CONTRACT # ALTERNATE NO. I

EPA PROJECT NO. C-420916-01

DATE OF SUBSTANTIAL COMPLETION	DESCRIPTION OF FACILITY
October 9, 1979	L-12 to L-14, L-14 to L-32, L-32 to L-33, L-32 to L-15, L-15 to L-16, L-16 to L-17, L-17 to L-18, L-18 to L-19, L-19 to L-20, L-20 to L-21, L-21 to L-22, L-22 to L-23, L-23 to L-24, L-24 to L-25, L-22 to L-28, L-28 to L-29, L-23 to L-26, L-18 to L-30, L-30 to L-31
November 19, 1979	U-1 to U-2, U-2 to U-3, U-3 to U-4, U-4 to U-5, U-5 to U-6, U-6 to U-7, U-5 to U-8, U-8 to U-9, U-9 to U-10, U-10 to U-11

FEDERAL ASSISTANCE			2. APPLICANT'S APPLICATION	3. NUMBER	4. STATE APPLICATION IDENTIFIER	5. NUMBER
1. TYPE OF ACTION (Mark appropriate box) <input type="checkbox"/> PREAPPLICATION <input type="checkbox"/> APPLICATION <input type="checkbox"/> NOTIFICATION OF INTENT (CMA) <input checked="" type="checkbox"/> REPORT OF FEDERAL ACTION			Leave Blank	b. DATE Year month day 19	b. DATE Year month day ASSIGNED 19	
4. LEGAL APPLICANT/RECIPIENT				5. FEDERAL EMPLOYER IDENTIFICATION NO.		
a. Applicant Name : Hamilton Township Municipal Auth. b. Organization Unit : c. Street/P.O. Box : 1066 Lincoln Way West d. City : Chambersburg e. State : Pennsylvania f. Contact Person (Name & telephone No.) :				a. NUMBER : 66-418 b. TITLE : Construction Grants for Wastewater Treatment Works		
7. TITLE AND DESCRIPTION OF APPLICANT'S PROJECT				6. TYPE OF APPLICANT/RECIPIENT		
Construction of approx. 127,550 l.f. of 8, 10, 12 and 14" sewers, 30,365 l.f. of 4, 6, and 8" force mains, 5 pump stations and all appurtenances.				A-State B-Interstate C-Substate D-District E-County F-City G-School District H-Community Action Agency I-Higher Educational Institution J-Indian Tribe K-Other (Specify): Authority		
10. AREA OF PROJECT IMPACT (Names of cities, counties, States, etc.)				9. TYPE OF ASSISTANCE		
				A-Basic Grant B-Supplemental Grant C-Loan D-Insurance E-Other Enter appropriate letter(s) [A]		
11. ESTIMATED NUMBER OF PERSONS BENEFITING				12. TYPE OF APPLICATION		
				A-New B-Revision C-Continuation D-Augmentation Enter appropriate letter [E]		
13. PROPOSED FUNDING				14. TYPE OF CHANGE (For 12c or 12e)		
a. FEDERAL \$ .00 b. APPLICANT .00 c. STATE .00 d. LOCAL .00 e. OTHER .00 f. TOTAL \$ .00				A-Increase Dollars B-Decrease Dollars C-Increase Duration D-Decrease Duration E-Cancellation Enter appropriate letter(s) [A]		
15. PROJECT START DATE Year month day 19				16. EXISTING FEDERAL IDENTIFICATION NUMBER		
17. PROJECT DURATION Months						
18. ESTIMATED DATE TO BE SUBMITTED TO FEDERAL AGENCY Year month day 19						
20. FEDERAL AGENCY TO RECEIVE REQUEST (Name, City, State, ZIP code)				21. REMARKS ADDED		
				[ ] Yes [ ] No		
22. THE APPLICANT CERTIFIES THAT						
a. To the best of my knowledge and belief, data in this preapplication/application are true and correct, the document has been duly authorized by the governing body of the applicant and the applicant will comply with the attached assurances if the assistance is approved. (1) (2) (3)						
b. If required by OMB Circular A-95 this application was submitted, pursuant to instructions therein, to appropriate clearinghouses and all responses are attached: None Response attached						
23. CERTIFYING REPRESENTATIVE						
a. TYPED NAME AND TITLE b. SIGNATURE c. DATE SIGNED Year month day 19						
24. AGENCY NAME Environmental Protection Agency						
25. ORGANIZATIONAL UNIT Water Division						
26. ADMINISTRATIVE OFFICE Grants Administration Branch						
27. FEDERAL APPLICATION IDENTIFICATION						
28. ADDRESS Curtis Building, 6th & Walnut Streets, Philadelphia, Pa. 19106						
29. FEDERAL GRANT IDENTIFICATION C-420916-01						
30. ACTION TAKEN						
a. AWARDED b. REJECTED c. RETURNED FOR ASSIGNMENT d. DEFERRED e. WITHDRAWN						
31. FUNDING						
a. FEDERAL \$ 1,152,970 .00 b. APPLICANT .00 c. STATE .00 d. LOCAL .00 e. OTHER .00 f. TOTAL \$ .00						
32. ACTION DATE Year month day 19 NOV 6 1978						
33. CONTACT FOR ADDITIONAL INFORMATION (Name and telephone number) Susan Litsinger 215-597-9944						
34. STARTING DATE Year month day 19 N/A						
35. ENDING DATE Year month day 19 N/A						
36. REMARKS ADDED [ ] Yes [ ] No						
37. FEDERAL AGENCY A-95 ACTION						
a. In taking above action, any comments received from clearinghouses were considered. If agency response is due under provisions of Part 1, OMB Circular A-95, it has been or is being made. b. FEDERAL AGENCY A-95 OFFICIAL (Name and telephone no.)						



S. ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D. C. 20460

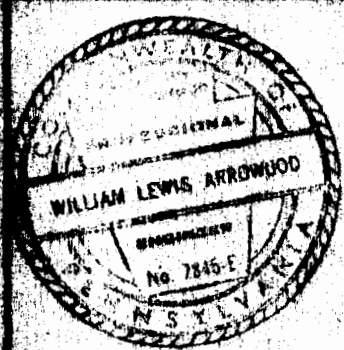
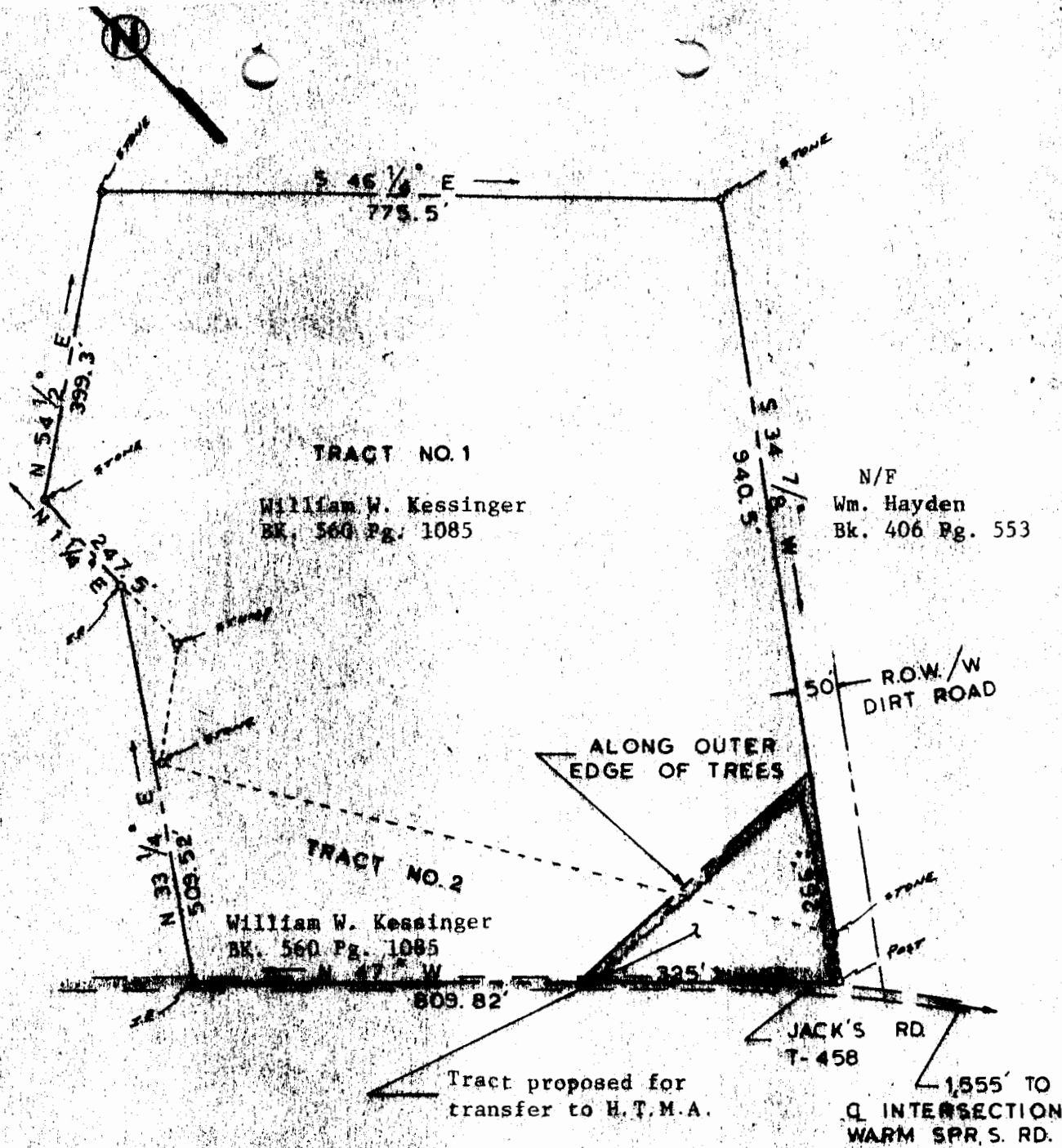
NOTIFICATION OF GRANT AWARD ACTION-Construction

(Note: Awards are subject to declination by applicant)

1. EPA OFFICE OF LEGISLATION CONTACT Patricia Gaskins		TELEPHONE (202) 755-0488		2. GRANT AGREEMENT/AMENDMENT TO BE MAILED TO APPLICANT ON OR AFTER 11/14/78			
3. ISSUING OFFICE EPA, Water Division Region III, Philadelphia, Pa.				4. LOG NUMBER Three-C-23		5. DATE OF AWARD 11/6/78	
6. COMMUNITY REP OR PROJ DIRECTOR (Name, Title, Telephone) Harry N. Fix Chairman 717/264-5440				7. GRANTEE (Name, Street, City, State, ZIP Code, County, Cong. Dist.) Hamilton Township Municipal Authority 1066 Lincoln Way West Chambersburg Pennsylvania 17201 Franklin County Cong. Dist. 9			
8. PROJECT LOCATION (Areas impacted by project)						9. GRANTEE TYPE Authority	
CITY/PLACE		COUNTY		STATE		CONGRESSIONAL DISTRICT	
10. COMMUNITY POPULATION 1,305		11. FIELD OF SCIENCE		12. PROJECT STEP III		13. VENDOR CODE	
14. EPA CONTACT FOR PROJECT INFORMATION (Name, Title, Telephone) John Machita, Jr., Chief Grants Administration Branch 215/597-9873				15. GRANT NUMBER C-420916-01-1		16. TYPE OF GRANT ACTION Augmentation	
17. PROJECT PERIOD				18. BUDGET PERIOD			
19. GRANT PROGRAM Construction Grants for Wastewater Treatment CFDA Program No. 66. 418 Works				20. GRANT MAKING AUTHORITY (P.L. Title, Section) Federal Water Pollution Control Act, As Amended			
21. AMENDED TOTALS	FORMER AWARD		22. TOTAL PROJECT COST		25. ELIGIBLE COST PROJECT	26. FORMER AWARD	
	\$		\$			\$ 3,688,050	
	THIS ACTION		23. TOTAL BUDGET COST			THIS ACTION	
	\$		\$			\$ 1,152,970	
AMENDED TOTAL		24. UNEXPENDED PRIOR YR. BAL.		CURRENT ELIGIBLE COST		AMENDED TOTAL	
\$		\$		\$ 6,454,700		\$ 4,841,020	
27. PROJECT TITLE AND DESCRIPTION  Construction of approximately 127,550 l.f. of 8, 10, 12, and 14" sewers, 30,365 l.f. of 4, 6, and 8" force mains, 5 pump stations and all appurtenances.							
28. OTHER INFORMATION							
29. FISCAL DATA							
PROGRAM ELEMENT	FY	APPROPRIATION	DOCUMENT CONTROL NO.	ACCOUNT NO.	OBJ CL	OBLIG AMT	
ABA779	78	68X0103.A	P78007	Y779034004	41.11	\$1,152,970	

RJG 11/1/78  
QW

Reported 11/6/78 - 9:40 AM



DRAFT TO ACCOMPANY PURCHASE  
 OPTION AGREEMENT BETWEEN  
 HAMILTON TOWNSHIP MUNICIPAL AUTHORITY  
 WILLIAM W. & PEGGY L. KESSINGER, HIS WIFE

cb

# Hamilton bids examined

By VICKY TAYLOR  
Staff Writer

**HAMILTON TOWNSHIP**  
— Sewage disposal for Hamilton Township will cost taxpayers over six percent more than original estimates, if the Hamilton Township Municipal Author-

ity awards contracts on the bids it accepted for the system Wednesday night.

The authority accepted a low bid of \$844,848 from Conewago Contractors, Hanover, for the township's five pumping stations and \$5,046,721 from Gerl Construction, Glen Rock, for

gravity pipe lines and force mains, bringing to \$5,891,569 the total for the system. Previous estimates had put the cost at \$5.5 million.

The township must award contracts on the township's share of the Chambersburg Area Regional Sewerage Project by Oct. 15, William Arrowood, the authority's engineer said.

The authority opened bids on the project last week, but delayed accepting them until last night's special meeting to give Arrowood and authority members time to investigate the cause of the apparent high bids.

Arrowood said last night that he felt federal wage rates on labor accounted for the higher estimates.

"This looks like a reasonable low bid," he said. He said that if the township could construct the sewage pumping stations with what he called "local forces," the estimated cost conceivably could be cut by one-third.

"You would probably have a hard time maintaining

eligibility with EPA (Environmental Protection Agency) for funding with local forces," he said.

He said an attempt was made about a year ago by all the townships involved in the regional sewerage system to get the wage rates lowered. But the attempt failed, he said.

"You might want to gamble and rebid in the hopes of saving a few thousand dollars," he said.

However, authority members decided the gamble wouldn't be worthwhile.

By accepting the bids, even though it did not make a decision on awarding contracts, the authority guarantees the prices in the bids for 120 days, Arrowood said.

Federal funds in the form of EPA grants will pay for about 75 percent of the system, Arrowood said, with the rest of the tab picked up by the authority. Arrowood estimated that the higher bids would increase the average monthly rate to users of the system to between \$16.50 and \$17.50.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

In Reply Refer To:  
3WA52

JUL 20 1978

Re: C-420916-01  
Hamilton Township Municipal  
Authority  
Contract Numbers 1, 2, 3, 4  
and 5

Mr. Harry B. Stouffer, Chairman  
Hamilton Township Municipal Authority  
1066 Lincoln Way West  
Chambersburg, Pennsylvania 17201

Dear Mr. Stouffer:

The Pennsylvania Department of Environmental Resources approved the following contract documents for the referenced project on June 20, 1978:

Revised plans and specifications for Contract Numbers 1, 2, 3, 4 and 5.

We are, therefore, forwarding you one set of the approved documents (under separate cover). This constitutes full approval of the plans and specifications and you are authorized to open bids.

An identical set of approved plans and specifications must be available at the project site at all times when construction is underway. The plans should be kept current with all minor changes indicated. Revised plan sheets should be submitted on all major changes and an approved copy filed with the original plans.

The following documents should be submitted in duplicate to the Pennsylvania Department of Environmental Resources as soon as possible after bid opening:

- a. EPA Form 5780-1B. (Three copies are enclosed. Enclosure #1.)  
The revised cost estimate in the form should be based on the bid or bids which you desire to accept.
- b. A revised payment schedule.
- c. Proposal and bond form from each apparent low bidder. The proposal should indicate receipt of all applicable addenda as approved

CONCURRENCES							
SYMBOL							
SURNAME							
DATE							

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

by the Pennsylvania Department of Environmental Resources and this office.

- d. If award is to be made to other than the low bidder, a justification from the Grantee indicating why the low bidder is not responsive or responsible.
- e. A certified tabulation of all bids received.
- f. An opinion from your title attorney for all necessary sites and rights-of-way and/or easements. The enclosed discussion is for the assistance of your attorney in preparing the opinion. (Enclosure #2.)
- g. Proof of advertising indicating compliance with 40 CFR 35.938-4. This maybe in the form of publisher's affidavits.
- h. A completed EEO Checklist from each apparent low bidder, if applicable, or, if the project is covered by a Pittsburgh, Philadelphia, or Youngstown Plan, a copy of the approved plan properly executed by the apparent low bidders.

Following approval of your bidding procedures by the Pennsylvania Department of Environmental Resources and this office, you will be notified that construction contracts may be awarded.

Sincerely yours,

Andrew C. Palestini, Sanitary Engineer  
Pennsylvania Section  
Facilities Management Branch

Enclosures:

- 1. EPA Form 5780-1B
- 2. WPC 2 and 2.1
- 3. EEO Checklist

Separate Cover: Contract Documents

cc: Mr. Walter A. Lyon, DER  
Mr. James Flesher, DER  
Arrowood, Inc.

ACPalestini:dm:7/19/78:7-8317

CONCURRENCES							
SYMBOL							
SURNAME	ACP						
DATE	7/20/78						

EPA Form 1320-1 (12-70) OFFICIAL FILE COPY



# ARROWOOD, INCORPORATED

ENGINEERING — SURVEYING

P. O. BOX 433

CHAMBERSBURG, PENNSYLVANIA 17201

PHONE 263-8794

June 14, 1978

e, Sewage  
es Treatment  
Water Treatment

raisal

RECEIVED  
FACILITIES MANAGEMENT BRANCH

JUN 22 1978

EPA REGION III

Planning & Zoning  
Roads & Streets  
Municipal Engineering  
Surveying & Estimating

Mr. Timothy Carpenter  
Department of Environmental Resources  
407 So. Cameron Street  
Harrisburg, Penna. 17102

Re: Revisions to Contract  
Documents, Hamilton Township  
Municipal Authority Franklin  
County (Project #C420916-1)

Dear Tim:

We submit herewith three (3) copies of Drawings relative to the subject which have been revised and supercede and replace the originally submitted Drawings of the same sheet number and contract number. We also include three (3) sets of Specifications which have been ammended to include the latest requirements of Fm H. A.

The Drawing revisions do not reflect any increase in project scope, but simply reflect changes required by Rights-of-way acquisitions or site changes since the date of original submission. For example, we originally designed a sewer to occupy a strip of land between Commerce Street (extended) and a parallel stream. The owner of that land filled it using huge slabs of concrete which forced us to shift the line into the roadway.

We assume you will transmit the required number of copies to Dennie Capella at EPA. The revisions are included in the contract documents intended to be advertised for bidding this week.

The following is a listing, by Contract Number, of the sheet numbers affected:

Contract Number 1

Sheet Number 1B, 2, 3, 4, 7, 9, 9A, 10, 11, 12, and 14

Contract Number 2

Sheet Number 1B, 1, 2, 7, and 11

Contract Number 3

Sheet Number 1B, 1, 2, 3, 5, 9, 14, 15, 16, 22, and 24

DER

Water Quality Management

JUN 16 1978

HARRISBURG REGION

C9

Revisions to Contract Documents

Sheet Number 21 is eliminated.

Contract Number 4

Sheet Number 1B, 6, 7, 20, 21, 23, and 30

Contract Number 5

Sheet Number 2, 7, 8, 9, 16, 20, and 28A

If you should have any questions, please contact the undersigned.

Very Truly Yours,  
ARROWOOD, INCORPORATED

A handwritten signature in dark ink, appearing to read 'W. L. Arrowood', written in a cursive style.

William L. Arrowood, President

WLA/jp



SUPERSEDES DECISION

STATE: Pennsylvania COUNTIES: Butler, Cambria, Erie, Fayette, Mercer, Washington, Westmoreland, Lawrence, Somerset, Allegheny, Beaver, Armstrong, Blair, Cameron, Centre, Clarion, Clearfield, Crawford, Forest, Greene, Indiana, McKean, Venango, Warren, Bedford, Jefferson, Clinton, Elk, Franklin, Fulton, Huntingdon, Mifflin and Potter  
 DECISION No.: PA78-1005 DATE: Date of Publication  
 Supersedes Decision No. PA77-3023 dated January 28, 1977, in 42 FR-5640  
 DESCRIPTION OF WORK: Heavy and Highway Construction

	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education end/or Appr. Tr.
CARPENTERS					
ZONE 1	\$10.87	8%	7%		
ZONE 2	10.58	8%	7%		
CARPENTER - WLEDER					
ZONE 1	11.30	8%	7%		
ZONE 2	11.02	8%	7%		

AREA COVERED BY CARPENTERS ZONES

ZONE 1 - Allegheny, Armstrong, Beaver, Butler, Erie, Fayette, Greene, Lawrence, Mercer, Washington and Westmoreland  
 ZONE 2 - Bedford, Blair, Cambria, Cameron, Centre, Clarion, Clinton, Clearfield, Crawford, Elk, Forest, Franklin, Fulton, Huntingdon, Indiana, Jefferson, McKean, Mifflin, Potter, Somerset, Venango and Warren

CEMENT MASONS	10.25	.615	1.635		
PILEDRIEVERMEN	10.55	5.5%	10%		
IRONWORKERS:					
Reinforcing					
ZONE 1	8.07	.785	1.03		.01
ZONE 2					
Structural, Ornamental & Reinforcing	11.28	.84	1.36		.03

AREA COVERED BY IRONWORKERS ZONES

ZONE 1 Butler, Cambria, Erie, Fayette, Mercer, Washington, Westmoreland, Lawrence, Somerset, Allegheny, Beaver, Armstrong, Blair, Cameron, Centre, Clarion, Clearfield, Crawford, Forest, Greene, Indiana, McKean, Venango, Warren, Bedford, Jefferson, Clinton, Elk, Fulton and Potter  
 ZONE 2 Franklin, Huntingdon and Mifflin Counties

DECISION #PA78-1005

LABORERS

	BASIC HOURLY RATES ZONE 1	BASIC HOURLY RATES ZONE 2	BASIC HOURLY RATES ZONE 3	FRINGES BENEFITS	
				H&W	PEN
CLASS 1	\$ 8.05	\$ 7.93	\$ 7.83	10%	10%
CLASS 2	8.21	8.11	8.01	10%	10%
CLASS 3	8.63	8.63	8.63	10%	10%
CLASS 4	9.58	9.58	9.58	10%	10%

AREA COVERED BY LABORERS ZONES

ZONE 1 - Allegheny, Beaver, Butler, Cambria, Erie, Fayette, Mercer, Washington, Westmoreland, Lawrence, and Somerset.  
 ZONE 2 - Armstrong, Blair, Cameron, Centre, Clarion, Clearfield, Crawford, Forest, Greene, Indiana, McKean, Venango and Warren  
 ZONE 3 - Bedford, Jefferson, Clinton, Elk, Franklin, Fulton, Huntingdon, Mifflin and Potter

CLASSIFICATION DEFINITIONS  
 FOR ALL ZONES

CLASS 1 - Heavy Highway & R.R. Construction Laborer (including tenders, handling Salamanders, L.P. Gas Heaters or similas, etc.), Asphalt curb sealers, asphalt tamers, batcherman (weigh), blaster's helper, brakeman, change house attendant, coffer dam laborer, concrete curing, pitman, puddler, (including vibrator operators), drill runner's helper includes drill mounted on truck, track or similar and davey drills (spots-clean-up & helps to maintain), electric brush and/or grinder, fence construction (including fence machine operator), form stripper and mover, gabion (erectors and placers), hydro-jet blaster nozzle man, manually moved emulsion sprayer, radio actual traffic control operator, rip rap work, scaffolds and runways (as per agreement of record), sheet piers and shorers, structural concrete top surfacer, walk behind street sweeper, water boy, welder's helper (pipeline), wood chipper.  
 CLASS 2 - Air tools (all types), asphalt, batch and concrete plant operator (manually operated), asphalt rakers, burner, caisson men (open air), carryable pumps, chain saw operator (including attachments), cribbing (concrete or steel), curb machine operator (asphalt or concrete) (walk behind), diamond head core driller, drill runner's helper (tunnel), fork lift (walk behind), form setter (road forms line man), highway slab reinforcement placers (incl. joint and basket setter), hydraulic pipe pusher, liner plates (tile or vitrified clay), mechanical compacting equipment, mechanical joint sealer, dope pot, and tar kettle, mortar mixer (hand or machine), muckers, brakemen and all other labor (includes installation of utility lines), pipe layers (regardless of material), portable single unit conveyor, post hole auger (2 or 4 cycle hand operated), power wheelbarrows & huggies, rail porter, or similar, all railroad track work, adzing machine, ballast router, bolting machine, power jacks, rail drills, railroad brakeman, rail saws, spike drivers (manually or hand-held tool), spike pullers, tamping machine, thermit weld, sandblaster, signal man.

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CLASSIFICATION DEFINITIONS  
FOR ALL ZONES

**CLASS 3** - Blacksmith, blaster, brick stone and block pavers and block cutters, (wood, belgian & asphalt), cement mortar lining car pusher, cement mortar mixer (pipe relining), cement mortar pipe reliners, concrete saw operator (walk behind), curb cutters and setters, elevated roadway drainage construction, form setter (road forms-load man), grout machine operator, gunite or dry pack gun (nozzle and machine man) manhole or catch basin builder (brick, block, concrete or any prefabrication), miners and drillers (including lining, supporting and form workmen, setting of shields, miscellaneous equipment & jumbos), multi-plate pipe (aligning and securing), placing wire mesh on gunite projects reinforcing steel placers (bending, aligning and securing & cad weld), wagon drill operators (air track or similar), walk behind ditching machine (trencher or similar), welder.

**CLASS 4** - Welder (pipeline).

	BASIC HOURLY RATES	BASIC HOURLY RATES	Fringe Benefits Pensions		
			H & W	PENSION	APPR. TR.
<b>LANDSCAPE:</b>					
Landscape Laborer	\$ 5.50	5.40	.40	.40	
Skilled Landscape Laborer	5.65	5.55	.40	.40	
Landscape Tractor Operator	6.00	5.90	.40	.40	

AREA COVERED BY LANDSCAPE  
LABORERS ZONES

**ZONE 1** - Allegheny, Armstrong, Beaver, Butler, Clarion, Crawford, Fayette, Greene, Indiana, Jefferson, Lawrence, Mercer, Venango, Washington, Westmoreland  
**ZONE 2** - Bedford, Blair, Cambria, Cameron, Centre, Clearfield, Clinton, Elk, Erie, Forest, Franklin, Fulton, Huntingdon, McKean, Mifflin, Potter, Somerset, Warren

## LINE CONSTRUCTION

## ZONE 1

Journeyman Lineman  
 Experienced Winch Truck  
 Operator  
 2nd 1000 Hrs.  
 1st 1000 Hrs.  
 Experienced Truck Driver  
 2nd 1000 Hrs.  
 1st 1000 Hrs.  
 Experienced Groundman  
 2nd 1000 Hrs.  
 1st 1000 Hrs.

## ZONE 2

Journeyman Lineman  
 Experienced Winch Truck  
 2nd 1000 hrs.  
 1st 1000 hrs.  
 Experienced Truck Driver  
 2nd 1000 hrs.  
 1st 1000 hrs.  
 Experienced Groundman  
 2nd 1000 hrs.  
 1st 1000 hrs.

Basic Hourly Rates	Fringe Benefits Payments			
	H & W	Pensions	Vocation	Education and/or Appr. Tr.
\$12.83	.45	1.28		.064
8.98	.45	.069		.044
8.77	.45	.087		.043
8.55	.45	.085		.042
8.34	.45	.083		.041
8.13	.45	.081		.040
7.91	.45	.079		.039
7.70	.45	.077		.038
7.48	.45	.074		.037
7.27	.45	.072		.036
10.76	.45	.107		.053
7.49	.45	.074		.037
7.30	.45	.073		.036
7.12	.45	.071		.035
6.94	.45	.069		.034
6.76	.45	.067		.033
6.58	.45	.065		.032
6.40	.45	.064		.032
6.21	.45	.062		.031
6.03	.45	.060		.030

## AREA COVERED BY LINE CONSTRUCTION ZONES

**ZONE 1** Allegheny, Armstrong, Beaver, Bedford, Blair, Cambria, Centre, Clarion, Clearfield, Fayette, Fulton, Greene, Huntingdon, Indiana, Jefferson, Somerset, Washington, & Westmoreland Counties  
**ZONE 2** Franklin & Mifflin Counties

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POWER EQUIPMENT OPERATOR	BASIC HOURLY RATES - ZONE 1	BASIC HOURLY RATES ZONE 2	BASIC HOURLY RATES ZONE 3	FRINGES BENEFITS		
				H&W	PEN	APPR. TR
CLASS 1	\$11.13	11.84		.95	.80	.09
CLASS 2	10.87	10.56		.95	.80	.09
CLASS 3	8.51	8.22		.95	.80	.09
CLASS 4	8.06	7.73		.95	.80	.09
CLASS 5	7.91	7.62		.95	.80	.09

AREA COVERED BY POWER  
EQUIPMENT OPERATOR ZONES

ZONE 1 - Allegheny, Armstrong, Beaver, Blair, Butler, Cambria, Centre, Clearfield, Crawford, Erie, Fayette, Greene, Indiana, Jefferson, Lawrence, McKean, Mercer, Somerset, Venango, Warren, Washington, Westmoreland  
ZONE 2 - Bedford, Cameron, Clarion, Clinton, Elk, Forest, Franklin, Fulton, Huntingdon, Mifflin, Potter

CLASSIFICATION DEFINITION  
FOR ALL ZONES

CLASS 1 - Autograder (C. M. I. & similar), backfiller, backhoe - 360° swing, cableway, enlison drill (similar to Hugh Williams), central mix plant, cooling plant, concrete paving mixer, concrete pump (self-propelled), cranes, cranes (boom or mast 101 ft. or over up to & including 150 ft. inclusive of jib + .25), cranes (boom or mast over 150 ft. up to & including 200 ft. inclusive of jib + \$.50), cranes (boom or mast over 200 ft. inclusive of jib + \$.75), cranes (tower-stationary-climbing tower cranes), derrick, derrick boat, dozer (D-6 & over), dragline, dredge, dredge hydraulic (1 leverman - 1 oiler - 1 apprentice), elevating grader, frankl pile machine, gradall (remote controls or otherwise), grader (power-fine grade), helicopter (1500 lb. or over lift), helicopter (under 1500 lb. lift), hiliift (4 cy. & over), hoist 2 drums or more (in one unit), hydraulic boom truck (with pivotal cab) (single motor-pitman or similar), kocal, lead mechanic, locomotive (std. gauge), metro-chip harvester or similar, mix mobile, mix mobile (with self loading attachment), mucking machine (tunnel), pile driver machine, pipe extrusion machine, presplitter drill (self contained), refrigeration plant (soil stabilization), rough terrain crane (25 ton & over), rough terrain crane (under 25 ton), scrapers, shovel-power, slip form paver (C. M. I. and similar), trenching machine (30,000 lbs. and over), trenching machine (under 30,000 lb.), tunnel machine (mark XXI jarva or similar), whirley

CLASSIFICATION DEFINITION  
FOR ALL ZONES (CONT'D)

CLASS 2 - Asphalt paving machines (spreader), asphalt plant operator, auger (tractor mtd.), auger (truck mtd.), backhoe (rear pivotal swing), (180° swing), belt loader (euclid or similar), boring machine, cable placer or layer, compactor with blade, concrete batch plant (electronically synchronized), concrete belt placer (C. M. I. and similar), concrete finishing machine and spreader, concrete mixer (over 1 cy.), concrete pump (stationary), core drill (truck or skid mtd. - similar to Penn drill), dozer (under D-6), force feed loader, fork lift (lull or similar), grader - power, grease unit operator (head), guard rail post driver (truck mounted), guard rail post driver (skid type), hiliift (und 4 cy.), hydraulic boom truck (non-pivotal cab), job work boat (powered) (when assistance is required it shall be a deckhand), jumbo operator, locomotive (narrow gauge), mechanic, minor equipment operator (accumulative four units), mucking machine, multi-head saw (groover), over-head crane, roller - power-asphalt, rock carrier, side boom or tractor mounted boom, stone crusher, (screening-washing plants), stone spreader (self-propelled) truck mounted drill (davey or similar), welder and repairman, well point pump operator

CLASS 3 - Broom Finisher (C.M.I. or similar), Compactors/Rollers (Static or Vibratory) (Self-propelled), Curb Builder, Minor Equipment Operator (Two to three units), Multi-head Tie Tamper, Pavement Breaker (Self-propelled or ridden), Soil Stabilizer Machine, Tire Repairman (As per Agreement with Teamsters), Tractor (Snaking & Hauling), Well Driller & Horizontal and Winch or "A" Frame Truck (When hoisting & Lowering)

CLASS 4 - Ballast Regulator, Compressor, Concrete Mixer (1 cy. & under with skip), Concrete Saw (Ridden or self-propelled), Conveyor, Elevator (Material hauling only), Fork-lift (Ridden or self-propelled), Form Line Machine, Generator, Grout Pump, Heater (Mechanical), Hoist (Single Drum), Ladavator, Light Plant, Mulching Machine, Personnel Boar (powered), Pulverizer, Pumps, Seeding Machine, Spray Cure Machine (power Driven), Subgrader, Tie Puller, Tugger and Welding Machine (Gas or Diesel)

CLASS 5 - Deck Hand, Farm Tractor, Fireman or Boiler, Mechanic's Helper, Oiler, Power Room, Side Delivery Shoulder Spreader (Attachment)

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## TRUCK DRIVERS

## ZONE 1

CLASS 1  
CLASS 2  
CLASS 3  
CLASS 4  
CLASS 5  
CLASS 6  
CLASS 7

Basic Hourly Rates	Fringe Benefits Payments			
	H & W	Pensions	Vacation	Education and/or Appr. Tr.
8.55	7.3%	4.2%		
8.29	7.3%	4.2%		
8.39	7.3%	4.2%		
8.47	7.3%	4.2%		
8.34	7.3%	4.2%		
8.24	7.3%	4.2%		
8.57	7.3%	4.2%		

## CLASSIFICATIONS DEFINITIONS ZONE 1

- CLASS 1 - Heavy Duty Trailer, such as Low-Boy, Dump Trailer, Pole Trailer, A-Frames (when used for transporting materials), Dumpsters, Ross Carriers, Form Trucks, Dual-purpose Trucks (when load has been loaded or unloaded with truck winch, loading, hauling and unloading), Mechanical Tailgate Trucks, Bucket Self-loading Trucks, Farm Tractors (when pulling and hauling), Fork Lift Trucks (in storage areas and warehouses), Tar and Asphalt Distributing Trucks
- CLASS 2 - Single-axle Ready-mixed Concrete Trucks (such as agitators, barrel, redi-mix concrete trucks, etc.)
- CLASS 3 - Tandem-axle Ready-mixed Concrete Trucks (such as agitators barrel, redi-mix concrete trucks, etc.); Liquid Tank Trucks - Straight and Semi including water, sprinkler, oil trucks such as fuel, dump (tandem), Flat bottom, Scissors, and combination fuel and grease)
- CLASS 4 - Tri-axle Ready-Mixed Concrete Trucks (such as agitators, barrel, redi-mix concrete trucks, etc.); Tar and Asphalt Trailer Trucks; Heavy equipment whose capacity exceeds that for which state licenses are issued - specifically refers to units in excess of 8 feet width (such as Euclids, Athey Wagon, Payloader, Tournawagons, and similar equipment when not self-loaded) Rated under forty-five tons, Tri Axle trucks
- CLASS 5 - Trucks with Dolly or Trailer
- CLASS 6 - Trucks under 33,000 lbs. gross load category (including all types of trucks such as fuel, dump, flat bottom, pickup and similar equipment. Also parts man and warehouseman).
- CLASS 7 - Heavy off-the-road equipment (rated at forty-five tons or over): Bottom or Belly-dump Trucks

DECISION NO. PA78-3005

## TRUCK DRIVERS

## ZONE 2

CLASS 1  
CLASS 2  
CLASS 3  
CLASS 4  
CLASS 5  
CLASS 6  
CLASS 7  
CLASS 8

Basic Hourly Rates	Fringe Benefits Payments			
	H & W	Pensions	Vacation	Education and/or Appr. Tr.
\$ 8.35	7.3%	4.2%		
8.03	7.3%	4.2%		
8.14	7.3%	4.2%		
8.30	7.3%	4.2%		
8.19	7.3%	4.2%		
8.14	7.3%	4.2%		
8.00	7.3%	4.2%		
8.39	7.3%	4.2%		

## CLASSIFICATIONS DEFINITIONS ZONE 2

- CLASS 1 - Heavy Duty Trailer, such as Low-Boy, Hi-Boy, Dump Trailer, Pole Trailer, A-Frames (when used for transporting materials), Dumpsters, Ross Carriers, Form Trucks, Dual-purpose Trucks (when load has been loaded or unloaded with truck winch, loading, hauling and unloading), Mechanical Tailgate Trucks, Bucket Self-loading Trucks, Farm Tractors (when pulling and hauling), Fork Lift Trucks (in storage areas and warehouses), Tar and Asphalt Distributing Trucks
- CLASS 2 - Single-axle Ready-mixed Concrete Trucks (such as agitators, barrel, redi-mix concrete trucks, etc.)
- CLASS 3 - Tandem-axle Ready-mixed Concrete Trucks (such as agitators, barrel, redi-mix concrete trucks, etc.)
- CLASS 4 - Tri-axle Ready-mixed Concrete Trucks (such as agitators, barrel, redi-mix concrete trucks, etc.); Tar and Asphalt Trailer Trucks; Tri-axle Trucks; Heavy equipment whose capacity exceeds that for which state licenses are issued - specifically refers to units in excess of 8 feet width (such as Euclids, Athey Wagon, Payloader, Tournawagons, and similar equipment when not self-loaded) Rated under forty-five tons
- CLASS 5 - Liquid Tank Trucks - Straight and Semi (including water, sprinkler, oil trucks, etc.); Trucks over 33,000 lbs. gross load category (including all types of trucks such as fuel, dump (tandem), flat bottom, scissors and combination fuel and grease);
- CLASS 6 - Trucks with Dolly or Trailer
- CLASS 7 - Trucks under 33,000 lbs. gross load category (including all types of trucks such as fuel, dump, flat bottom, pickup and similar equipment. Also parts man and warehouseman.)
- CLASS 8 - Heavy off-the-road Equipment (rated at forty-five tons and over); Bottom or Belly dump trucks

## AREA COVERED BY TRUCK DRIVERS ZONES

- ZONE 1 - Allegheny, Armstrong, Beaver, Blair, Butler, Cambria, Centre Clearfield, Crawford, Erie, Fayette, Greene, Indiana, Jefferson, Lawrence, McKean, Mercer, Somerset, Venango, Warren, Washington, Westmoreland
- ZONE 2 - Bedford, Cameron, Clarion, Clinton, Elk, Forest, Franklin, Fulton, Huntingdon, Mifflin, Potter

[FR Doc. 78-4811 Filed 2-23-78; 8:45 am]

## MODIFICATIONS P. 11

DECISION #. PA78-3005 - Mod. #1  
 (42 FR 7923 - February 24, 1978)  
 Butler, Cambria, Erie, Fayette,  
 Mercer, Washington, Westmoreland,  
 Lawrence, Somerset, Allegheny,  
 Beaver, Armstrong, Blair, Cameron,  
 Centre, Clarion, Clearfield,  
 Crawford, Forest, Greene,  
 Indiana, McKean, Vanango, Warren,  
 Bedford, Jefferson, Clinton, Elk,  
 Franklin, Fulton, Huntingdon,  
 Mifflin and Potter Counties,  
 Pennsylvania

## Change:

## Landscape:

Landscape Laborer  
 Skilled Landscape Laborer  
 Landscape Tractor Operator

Piledrivermen

BASIC HOURLY RATES ZONE 1	BASIC HOURLY RATES ZONE 2	FRINGES BENEFITS	
		H&W	PEN
\$ 6.15	6.05	.75	.60
6.30	6.20	.75	.60
6.65	6.55	.75	.60
11.29		5.5%	10%

## SUPERSEDES DECISION

STATE: Hawaii

DECISION NUMBER: HI78-5016

Supersedes Decision No. HI77-5087 dated September 23, 1977, in 42 FR 48663.

DESCRIPTION OF WORK: Building (including single family homes and garden type apartments up to and including 4 stories), heavy and highway construction and dredging

COUNTIES: Statewide

DATE: Date of Publication

Supersedes Decision No. HI77-5087 dated September 23, 1977, in 42 FR 48663.

DESCRIPTION OF WORK: Building (including single family homes and garden type apartments up to and including 4 stories), heavy and highway construction and dredging

	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
ASBESTOS WORKERS	\$ 10.54	.65	\$ 2.00	.85	.06
BOILERMAKERS	9.73	.65	1.00		.03
BRICKLAYERS; Stonemasons	10.50	1.10	1.45		.10
CARPENTERS:					
Carpenters; Hardwood Floorlayers;					
Patent Scaffold Erectors;					
Pneumatic Nailer; Shinglers	10.15	1.14	1.70	1.00	.06
Power Saw Operator (2 HP & over)	10.30	1.14	1.70	1.00	.06
Millwrights	10.40	1.14	1.70	1.00	.06
CEMENT MASONS:					
Cement Masons	9.33	1.10	1.45	.60	.10
Trowel Machine Operators	9.48	1.10	1.45	.60	.10
DRAPERY INSTALLERS	6.45	.50	.40	b	
DRYWALL APPLICATOR	10.25	1.14	1.70	1.00	.07
ELECTRICIANS:					
Electricians; Linemen	10.97	.83	15%+1.74	11.2%	.45
Technicians	11.30	.83	15%+1.74	11.2%	.45
Line Equipment Men	9.87	.83	15%+1.74	11.2%	.45
Groundmen	8.23	.83	15%+1.74	11.2%	.45
Cable Splicers	12.07	.83	15%+1.74	11.2%	.45
ELEVATOR CONSTRUCTORS	12.98	.745	.56	3%+a	.025
ELEVATOR CONSTRUCTORS' HELPERS	9.09	.745	.56	3%+a	.025
ELEVATOR CONSTRUCTORS' HELPERS (PROB.)	6.49				
FENCE ERECTORS (Chain Link)	5.39	.23	.29	.10	.03
GLAZIERS	9.64	.96	.85	.97	.12
IRONWORKERS:					
Bridge; Ornamental;					
Reinforcing; Structural	10.65	.90	1.37	1.00	.15
LATHERS	10.09	.85	1.25		.16
LINE CONSTRUCTION WORKERS:					
Electricians; Linemen	10.97	.83	15%+1.74	11.2%	.45
Technicians	11.30	.83	15%+1.74	11.2%	.45
Line Equipment Men	9.87	.83	15%+1.74	11.2%	.45
Groundmen	8.23	.83	15%+1.74	11.2%	.45
Cable Splicers	12.07	.83	15%+1.74	11.2%	.45
MARBLE SETTERS	10.47	1.10	1.45		.10
PAINTERS:					
Brush	9.00	.79	3.00	.75	.10
Tapers	9.20	.79	3.00	.75	.10
Spray	9.50	.79	3.00	.75	.10
PLASTERERS	9.74	1.10	1.75	.60	.16

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